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The German Attack on Kangchenjunga

The Second Highest Mountain in the World

By PAUL BAUER

Translated by Sumner Austin

PUBLISHER'S NOTE:

This account of the first attack upon Kangchenjunga received the Gold Medal at the Olympic Games in Los Angeles.

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CONTENTS

	Page
Preface	xi
THE FIRST GERMAN ATTACK IN 1929	
The Decision	I
Preparations	4
Munich—Ceylon	9
To Darjeeling	20
Through Sikkim	31
Into the Zemu Valley	46
Explorations	58
Kangchenjunga	70
The Retreat	95
THE SECOND GERMAN ATTACK IN 1931	
The Goal	111
The Journey to the Himalayas	114
The Departure from Darjeeling	117
The March to Kangchenjunga	121
The Struggle for Camp VIII	127
A Serious Accident	139
The Conquest of the great Precipice of	
Kangchenjunga	148
The Final Attempt on the Summit	159

Plat	facing facing	page
I.	In the interior of Ceylon	xvi
	Island temple of Tepa Kulam at Badiyur, near	
	Madura	I
3.	The Kangchenjunga Massif seen from Dar-	
-	jeeling, 44 miles away	16
4.	Summit formation and South Face of Kangchen-	
	junga seen from Darjeeling by telescope	17
5.	En route through the Teesta Valley, near	
	Dikchu	20
6.	Irrigation terraces with young rice, near	
	Pakhyong	2 I
7.	A hill farm on the Penlong La, near Gangtok	28
8.	A suspension bridge, crossing the Teesta, near	
	Tsuntang, showing Hartmann	28
	High forest on the slopes of the Teesta Valley	29
10.	Kangchenjunga seen from the Dak bungalow,	
	at Singhik	32
	A young Lepcha woman	33
12.	A beggar with the familiar praying-wheel in	
	Lachen	36
	'Beer brewing,' near Gangtok	36
	Early morning in Lachen	37
	Two Lepcha peasants from the Mangen district	37
16.	The band of the Lama of Lachen Monastery	
	greeting the British Resident	44
	In the forests of the Zemu Valley	45
18.	The camp in rainy Yaktang	48
19.	Native herdsmen in front of their hut at Tsetang	49

age	ate facing	Pla
49	. The bridge over the Tomya Chu	20,
	. Kami, Tenchedar and Pasang among the boul-	
52	ders near the glacier snout	
53	. Camp III	22.
60	. Great stock-taking at the advanced base camp	
	. Climbing boot with edelweiss, Green Lake	
60	Plain	•
	. Meconopsis simplicifolia, blue poppy, near	25.
61	Green Lake	
64	. Siniolchu, from the Lower Zemu Glacier	26.
	. Summit pyramid of Siniolchu seen by telescope,	27.
65	from Camp III	
68	. Kangchenjunga with the N.E. spur	28.
69	. Porters in a field of edelweiss near Green Lake	
69	. Porters crossing a glacier stream	зō.
Ť	. Arrival at the foot of the vast face of Kang-	31.
70	chenjunga	-
71	. Levelling the site for Camp VI	32.
	. The large slabs are measured off and correctly	33.
7 I	adjusted	
	. Allwein in Camp VI handing the porters their	34.
74	daily ration of fat	
74	. Ketar learns how to nail a boot	35.
75	On the steep ice fall above Camp VI	36.
	Stratification of ice in the Upper Zemu	37.
	Glacier telescopically photographed from the	
76	'Eagles' Eyrie'	
	The lower portion of the N.E. spur seen from	38.
77	the Upper Zemu Glacier	
80		
		40.
8 I	'Eagles' Eyrie'	
		4I.
84	ridge	
78	chenjunga Levelling the site for Camp VI The large slabs are measured off and correctly adjusted Allwein in Camp VI handing the porters their daily ration of fat Ketar learns how to nail a boot On the steep ice fall above Camp VI Stratification of ice in the Upper Zemu Glacier telescopically photographed from the 'Eagles' Eyrie' The lower portion of the N.E. spur seen from the Upper Zemu Glacier Setting out from the 'Eagles' Eyrie' The rock tower at the foot of which lies the 'Eagles' Eyrie' N.E. spur and summit seen from the horizontal	32. 333. 34. 35. 36. 37.

Plai	te facing	page
42.	A party of porters resting at the commencement	. •
	of the horizontal ridge	85
43.	A party descending near Camp VIII	92
	Between the towers above Camp VIII	93
	Camp VIII, looking across the Zemu Glacier	
• •	towards Kangchenjau and Pauhunri	100
46.	View from 'Little Camp' towards Siniolchu	101
47.	Taken after a fall of snow	104
	Interior of our cosy kitchen	104
49.	At about 22,960 ft. on the N.E. spur) bets	ween
		04-
•	Lake to the west, south and east	105
ζΙ.	Simvu seen across the snow-covered glacier	105
52.	A camp during the retreat, 1929	108
5 3·	Crossing the Zemu Glacier	108
54.	A last rest at the base camp	109
55.	Brenner, our photographer, cooking	109
	Back through the snowed-up jungle	I I 2
57.	Morning after a night in the snow	I I 2
58.	Members of the expedition on board the N.	
-	German Lloyd <i>Fulda</i>	113
59.	A picked guard of porters in Rangpo	113
	Our route across the snow slopes above the	
	'Eagles' Eyrie'	128
61.	View from the horizontal ridge across the face	
	on to the upper part of the Zemu Glacier,	
	the rock island and the main glacier	129
62.	At the commencement of the route over the	
	horizontal ridge	132
63.	The tower with the ridge camp	133
64.	Scene of the disaster near 'Little Camp'	140
	Hermann Schaller's grave on the rock island	141
	The swoop of the ridge between the first and	
	second terraces (Camp VIII to Camp IX)	148

Plai	te faci	ing page
67.	On the edge of 'Devil's tower'	149
68.	Looking down from the top of the great cle	eft
	on to the last towers between Camps VI	II
}	and IX	156
69.	The snow ridge at the commencement of t	he
	'Biancograt'	157
70.	View from the ice cave at Camp VIII	164
71.	Hartmann in the ice cave of Camp IX	164
72.	A last halt before the Outpost Peak	165
73.	The upper part of the avalanche slope se	
	from the Outpost Peak	165
	Kangchenjunga from Sugarloaf	168
75.	The main summit of Kangchenjunga seen	
	from the Outpost Peak	between
76.	Cairn with praying-flags on the northern	168-
	edge of the Himalayas, near Deutang	169
77•	Huge rock writings near Tangu in N.	109
	Sikkim	
78.	Members of the expedition in Colombo at	
	the house of Herr von Pochhammer	169
	Members of the expedition at Camp VI	169
80.	Tent of Tibetan nomads with praying-flags	on
	the frontier east of Deutang	172
81.	A muleteer cooking in the morning sun	172
82.	The Siniolchu Needle seen from the Passa	ın-
	ram Glacier	173
	MADE AND ELEVADIONE	

WHEN in 1930 the firm of Knorr and Hirth suggested that I should write a book about the first German Himalayan Expedition, I viewed their proposal as a somewhat dangerous temptation. In the domain of authorship which I was to enter, it is words that count rather than action and experience. A man of imagination can often describe these better, and certainly with less restraint than one to whom the thrills and tragedies of his experiences are still quite vivid. Yes, where words alone count, empty but high sounding phrases are born, and cheap intellectualism and imaginary experiences are as well rewarded as the patient work of months and years, and receive higher recognition than an account of actual doings where life was risked again and again, and which remain in a man's consciousness until his last breath. It was the knowledge that I had to make these confessions that made me hesitate before venturing upon this new ground.

But on the other hand, I felt a responsibility and a duty towards the ideal which had drawn us nine men to the Himalayas, and helped us to face the toils which awaited us there. I owed it also to the German mountaineering confraternity from which we sprang, to write an account. And so I finally began my task, not for entertainment, but as a true and faithful picture of what happened. May others learn and pass judgment, and from our experience perhaps imbibe a little of that stern, warlike, disciplined spirit which was our heritage from the Great War, and which we proudly treasured up in our souls.

It was a happy surprise to me that a book undertaken

in this spirit should have been actually accepted by the publishers and read with understanding and sympathy by a large public.

We think of mountaineering as an expression of a man's strength and health. There is no more need to explain his motives than there is to search for the 'élan vital' of life itself. To do so is to touch chords which should remain hidden in the inmost recesses of the human heart. We need not look for motive, spiritual or practical, or analyse the desire a climber may have to add to his sense of enjoyment by picking flowers on the mountain side. One thing only stands clear and irrevocable before every mountaineer: the goal. And the greatest goal of all is the mighty Himalayas. Few climbers ever see them, but to each they are the butt and journey's end. And all the more for those who can never reach them do they stand as the cloud-capped ideals of the climber's goal, of which our peaks at home are but the frailer earthly counterpart. No mountaineer can ever forget them, or lose the chance of pitting his strength against them when he feels the moment ripe.

Long before all the peaks in the Alps had been scaled, the greater undertakings in the Himalayas had begun. The three Munich brothers Schlagintweit were more or less the pioneers when they made an attempt on Ibi Gamin in August 1855. They reached 22,250 ft.

It was a full half century later that the first 23,000 ft. peak was reached. Men who had conquered one summit after the other, in the Alps, the Caucasus and elsewhere, could not overcome the giants of the Himalayas. Up to the commencement of the Great War only three peaks over 23,000 ft. had been climbed, while no one had succeeded in reaching 24,600 ft.

A definite forward step was made when the English

attacked Everest in force. Every assistance that the British Empire could offer was placed at the disposal of this expedition; in fact, the conquest of the world's highest mountain became the aim of every patriotic Briton. At the second attempt in 1922 they succeeded in reaching a height of over 26,250 ft. A third attempt was made in 1924. The climbers got over 27,880 ft., but could not reach the top, and when the advance party, Mallory and Irvine, who had toiled on towards the goal, had vanished for ever in the clouds which hid the summit, this heroic attempt on Everest was abandoned.

After this tragic happening there was at first a complete pause in the struggle for the earth's highest point. Years passed without any new attempts. The English had obviously expended their best forces. The impetus for a fresh attack must come from other quarters, and it came from Germany. As a result of the war and the bitter aftermath, an unusually determined but unexacting generation had arisen in Germany. After the war we had gradually found our way back again to the mountain districts of Europe by the simplest means, and by our own mental and physical resources. We felt an obligation to penetrate beyond the narrow confines of our native land. In many a weary climb and many a night under canvas we had wrung from nature her inmost secrets, and had learnt to master the mountains under every condition, in wind and storm, snow and darkness. We shut our ears to the theory that, judging by the experiences of the Everest expedition, man is too weak to attain such heights with any degree of freedom or safety. We would acknowledge no limit to man's powers and endurance. Our whole being urged us on to join in the struggle.

When we left Germany our goal was still undecided—but at least it was the Himalayas. We wanted to penetrate this great mountain massif, and we had thoroughly

studied its various districts. We were ready to follow our fate to whatever mountain or valley it should lead us. But once we had seen Kangchenjunga there was no other possible goal for us. To that goal we held fast in 1929 and 1931, and still do to-day.

It was not blind zeal or irrepressible pride that urged us on to the attempt; rather it was an opportunity for us to test those qualities which had become superfluous in everyday life, but which to us were still the highest qualities in the world: unshakeable courage, comradeship, and self-sacrifice. We would attack our goal with pride and self-confidence, modestly, and yet with the thrill of enthusiasm; not as irresponsible marauders, nor in a spirit of boyish adventure. We were men who had won a sure position in civil life, but who only regarded that as a foundation and an opportunity to strive for a higher ideal.

Such an ideal debarred us from following the courses taken by other expeditions up to now. We could not enlist under any Society, or invoke the sponsorship of a sensation-loving Press. We refused to disguise our mountaineering ideals under the cloak of scientific research, and we denied ourselves the pleasure of taking with us a few wealthy patrons who might have helped finance the expedition.

The members of our Himalayan expedition could not be enrolled in the customary way. We sought rather for a close fellowship of men endowed with special spiritual gifts. Such a fellowship I found in the Akademischer Alpenverein of Munich; men such as the leader of the expedition could chose for himself unswayed by outside influences, men trained to a hair, in body and in mind. In making such a choice club politics had to go by the board. This naturally created some animosity towards my scheme among the conservative supporters of use and

custom. Further, our undertaking had to be based upon a kind of military discipline and unquestioning obedience. Even though the spirit of good-fellowship overshadowed this stringency, yet in the years 1928 and 1929 anything even suggesting military discipline was cried down. Wellknown mountaineers declined to fall in with such ideas, and their refusal to accept the discipline I required of them found a ready support in the spirit of the times. Moreover the connoisseurs considered it impossible for us to manage on the money which I had calculated for the expedition. And there were other aspirants in the field. For all these reasons our ideas met with hostile opposition, and only after a hard struggle could we see our way clear. We were actually trying out new theories for the first time, and as is so often the case, the official representatives of German mountaineering were opposed to innovations.

Even when we had won through at home, our journey to the Himalayas was still in the air, for we were now up against the unknown. No personal experiences in these regions were at our disposal. Since the beginning of the war all personal relationships between Germany and India had been completely broken off. We had formed all our ideas of the country, people, and conditions from what we had read. It was exciting to see how far we should be right.

Our mountaineering methods were new, based upon our extensive experiences in the Alps, but they had not been tried against the giants of the Himalayas. Our organization was based upon new principles. We restricted our baggage, and with it our necessary comforts, to the minimum, and relied rather upon companionship, self-sacrifice, and good organization, than upon quantity of supplies and elaborate outfit. Above all it was a new idea to fit out an expedition of this size at a quarter, even a tenth of the cost that other similar undertakings had

always required. We were convinced that our calculations were correct, but could only prove it in practice. In every particular the 1929 expedition was really a venture into the unknown. The results were surprising. Our calculations appeared to be entirely justified. Afterwards I felt it my plain honest duty to account to the public, who had subscribed towards our expenses, for every farthing.¹

Our methods proved so successful, and the gain in mountaineering experience so considerable, that they stimulated fresh attacks upon the Himalayas. Since 1929 scarcely a year has passed without one or more expeditions setting out for the Himalayas. They are chiefly English and German, and include the fourth English Everest expedition and the lavishly organized German Nanga-Parbat expedition.

As the first German climbers to visit India after the war, in fact, as the first extensive German Himalayan expedition, we broke fresh ground in this respect also. At the time of our departure this was generally recognized at home, though there were many who had a wrong conception as to what was really involved. We were practically reproached with the fact that our finances were too small to represent Germany with adequate dignity. People tried to warn us against carrying our own rucksacks, and such like. But our enemies had robbed us, and we had no need to conceal the fact. I also thought we should be wronging the German people if we took more money than was absolutely necessary, out of the country. I knew the English well from years of experience. knew it would be a false move, and, considering the economic condition of Germany, trebly wrong to try and buy their respect with a pretentious appearance of luxury. English public opinion has a very fine sense of discrimination in judging between the genuine and the shoddy, and

¹ See Paul Bauer, Im Kampf um den Himalaya (Munich 1931), p 143.

took great care not to conjure up wealth where none xisted.

Our personal relationship with the English presented o problems. We wanted nothing from them, we had no esire to impress them, but only to be on good terms with nem. We felt at home and among kinsmen' with the British, who usually meet everyone in a friendly and considerate manner—as friendly, modest, and retiring as only a fundamentally sound people can be. In order to save ourselves from any possible tactlessness, we had done as Wellington did with his English officers, and made a strict rule never to discuss religion or politics. And we resisted the strong temptation to seek to lay down the law and explain Germany to others, in the hope of convincing them of their misdirected policy towards her. Perhaps for this very reason no one ventured to attack us on the score of our nationality, and we were received everywhere, not merely in a friendly spirit, but with a genuine and hearty welcome. Both the daily papers and the foreign mountaineering periodicals gave the German Kangchenjunga expeditions of 1929 and 1931 unusual sympathy and recognition.

There is still a word to say about the men who made the journey. They were not just fellow travellers or merely climbing companions. One can only demand of a fellow traveller that he is convivial, congenial and obliging, one does not expect self-sacrifice. He is naturally more concerned with his personal well-being and interests. The companionship of the mountains goes much deeper, for the goal in view as well as every step towards it concern all alike. It means real comradeship in the struggle, and division of toil and danger. But the bond need only last some hours, and has its limits too, when mountaineering or other interests clash.

A stronger bond united the men who set out to fight

in 1929 and 1931. A sacred ideal was ever before them as with the crusaders of old. Faithful to the last gasp, like mediaeval warriors round their Duke, they knew neither doubt nor fear. Filled with an unquenchable pride in their own invincible courage, they went on their way without seeking to know the issue. Like some desperate band they held the lists for a Germany, which at that time was lightly valued even at home—and this thought above all others drew them closer together. They were a band pledged together for life or death, in which none would be before his fellow, were even his life at stake: a band of proud, determined, self-confident men united in fanatical devotion.

To these men, and above all to him who made the supreme sacrifice, our great-hearted, faithful Hermann Schaller, I dedicate this book.

Nabburg, September 1934.

PAUL BAUER.

THE DECISION

T was in the Isar valley near Munich that the idea of I mountaineering in foreign lands first came to us. Thither my friend Brenner and I had once retired when the inflation period of 1922 had left us penniless. The forest was our study, the Isar our playground, and the rocks opposite the Georgenstein were our favourite haunt. Our total wealth consisted of a galleypot, some dried pea 'sausages', and a cheese from the Allgau. Our camp fire burnt at night. The city, the whole of Germany, which for five long years we had stood ready to defend, but which now had grown so terribly strange to us, lay behind us, miles away. It seemed so remote from our thoughts that we might have fancied ourselves in the farthest cañon of North America. We were close to Nature, our constant friend. How often had a golden evening sky helped us to forget the hardest day's fighting, the severest losses, or a bunch of blue cornflowers on the parapet brought some joy and peace to our lives in the battered trenches. We had fled to nature from a strange world that was crashing around us.

The reflection of our fire lit up the rolling Isar which poured down from afar, powerful, alive, monster-like, till it lapped round our rock like a faithful hound. Our thoughts travelled from one end of the earth to the other, and lingered wherever man is at war with untrammelled nature. They finally rested upon the silvery shining river before us and followed its course back to its mountain home. They passed from peak to peak to regions where

В

we as Germans could not yet set foot, encircled as we were by a wall of falsehood, enmity and poverty. I recalled the fancies of my childhood, and the thrills I got by reading Heer, and how I built mountains and glaciers in the day-time, and at night dreamt of snow-fields that stretched far up to the skies, all white and mysterious. How often have I grumbled at God for forgetting to fill my home, the Palatinate, with these glorious, inimitable marvels of His creation.

We talked over the camp fire slowly and deliberately, and as we talked our words took on a more definite meaning. When we rose from our rock at dawn, our plan was settled in every detail: we would take six weeks' supplies with us from home, use bicycles to cover the long distances, and live under canvas.—It would be absurd if, in spite of all difficulties, we could not manage to visit the mountains between Italy and Switzerland. It was imperative for us to escape at last from the crushing narrowness into which Germany had been forced by the war.

That was the beginning: we returned in the autumn successful and rich in experience—with Monte Rosa, the Matterhorn, the Nadelgrat, and twelve thirteen-thousand foot peaks to our credit. At the Akademischer Alpenverein we found ourselves surrounded by kindred spirits. The 'genius loci' helped us to form a little band of enthusiasts, whose aim was to train unremittingly for a goal so distant and so high, that at first it could only be imagined but not put into words. The hundreds of mountain lovers who every Saturday wander southwards, and gaze from our hills upon other and grander heights, were a lasting encouragement and example to us. Years passed in which we spent every free day among the mountains and in many a night watch probed nature's deepest secrets.

THE DECISION

At the time of the English Everest expedition it was still all a fantastic castle in the air when we dreamed of Darjeeling as the starting point of our adventures in the struggle for the world's highest peaks. But step by step we moved on to more difficult achievements. After two years' work I succeeded in penetrating into the Caucasus with three friends. At the same time Dr. Allwein was with the German-Russian expedition in the mountains of Pamir. (First ascent of Pic Lenin.) After our return we really began seriously to consider our Himalayan scheme, though only tentatively at first. It was a great undertaking, perhaps the greatest the earth could offer mankind, but one which must be carried out if man is to boast that he knows the whole earth. The more critically we went into the matter, the more certain we felt of the outcome. We eyen found it categorically imperative to direct our powers and experience towards this end. And so my circular letter to my companions began with these words: 'It is now quite obvious to me that in 1929 we must go to the Himalayas.'

PREPARATIONS

REPARATIONS for such a journey involve months of exacting work of every kind. When, in addition, one has to devote one's chief energy to professional duties, study, or examinations, as was the case with all of us, then smooth co-operation and genuine enthusiasm among the workers is absolutely essential to good results. Every man passed this crucial test. Night after night in Nabburg the typewriter banged away, disgorging endless communications of all descriptions: circulars to the members of the expedition, requests for money, enquiries about supplies and outfit, letters to England, India, Nepal and elsewhere. Mothers, sisters and aunts had been long at work at the necessary sewing and darning. In Munich, Beigel and Fendt went round from house to house among friends and acquaintances collecting boots and clothing for our porters. Allwein ploughed through the entire Himalayan literature, Kraus studied tropical diseases and became a complete Himalayan chemist. Beigel experimented in cookery: he made general enquiries as to how much sugar was needed for four cubic inches of tea, he counted the number of beans in a pound of coffee, and the number of seconds it takes to make rice soft. Finally he was able to draw up a menu for every day of our journey. We paid continual visits to Schuster, the sport outfitters. We invented new devices, made models of them, discarded them and built them up again in better forms, until at last everything was shipshape. There was only one really possible way of getting such an

PREPARATIONS

outfit together, and a thoroughly good outfit it was, too—the English in India spoke of our 'splendid equipment,' and our Tenchedar who had wielded the cook's spoon with the Everest expedition was continually astonished at its simplicity and comprehensiveness. That was because we had taken care to go into every possible question of detail for years beforehand. We also had at our disposal the experiences gained in our journey to the Caucasus in 1928, and those of the German and Austrian Alpenverein's expedition to the highlands of Pamir and South America. Finally we could compare these experiences with those of the English Everest expedition and fill in any gaps at first hand.

In collecting our equipment the question of weight played a very important part. For instance, we could not oblige Germany's biggest brewery by taking a case of their beer with us up into the mountains, since to do so would have meant paying and feeding a porter for a month.1 Then we would have needed a second porter to carry the supplies of the first one, and he too would have had to have been fed. No one porter can carry his complete supplies and equipment for the mountains by himself, each porter's load requires three men. If the porterage extends beyond a month, one may perhaps require four or five porters at least for this one load. So each piece had to be weighed three times, and we debated over and over again as to whether we could not dispense with something or in any way lighten it. Detailed information had to be sent out as to how many handkerchiefs and socks each man was to take, even the exact number of needles and reserve boot nails was stated. We really felt like celebrating the occasion when equipment and supplies lay in great heaps in Fendt's house, (his mother was very long-suffering with all the mess we made), all ready

¹ Although none of us had any objections to beer or wine, we did not take a drop of alcohol with us; as a luxury we could dispense with it, as medicine for internal complaints fasting is much better.

for us to do up into porters' packs. Barrels were washed out and filled with provender, cases nailed down, rucksacks packed, sacks tied up by the united youthful strength of two or more men, so that we trembled for the moment when they would have to be opened.

Of all our preparations for this expedition the simplest thing was the choice of its members. Though prima facie it may not have appeared so, the complete scheme was not entirely of my own contriving. It was rather the outcome of the spirit and experiences of a circle of Munich mountaineers, and it was only natural that the members of this circle would best understand such a scheme and carry it out. Those of us who finally left for India (for a few who had originally intended to join had to fall out for professional or financial reasons) were united by long companionship among the mountains; I quite naturally declined to take with us anyone whom I did not know personally. If any should resent this attitude, I am sorry, but abide by my decision. Each one of us had a number of difficult climbs to his credit, and, what is more important than the greatest achievements in an undertaking of such magnitude, each had passed through a recognized school of mountain craft which lays more stress upon security, self-denial and unshakeable good humour, than upon a few brilliant successes.

There were nine of us: Dr. Eugen Allwein, physician from Munich, well known for his first ascent of Pic Lenin, 23,361 ft. in the mountains of Pamir; Peter Aufschnaiter, agriculturalist from Kitzbühel, invaluable because of his knowledge of Nepalese; Julius Brenner, chemist from Kaufbeuren, our photographer; Dr. Ernst Beigel, veterinary surgeon from Munich, well known as a member of the Caucasus expedition of 1928, our head chef; Wilhelm Fendt, political economist from Munich, solo ascent of the Pallavicini Chimney on the Gross-Glockner;

PREPARATIONS

Karl von Kraus, medical student from Munich, with the Pétéret Grat among other achievements; Joachim Leupold, political economist from Arnstadt, first longitudinal winter crossing of Mont Blanc; Alexander Thoenes, engineer from Speyer, who in addition to being a fine climber, was a successful glider (winner of the Gliding Trials, Rhön, 1927). To complete the list I give my name again: Paul Bauer, notary from Kusel in the Rhine Palatinate.

The first circular letter of January 1929 contained the following sentences which explain the rules and regulations laid down for members of the expedition: 'Each man in addition to his personal outfit must bring appropriate travelling equipment and spare clothing for the porters, also a contribution towards the general funds out of his own purse. The total expenses will be defrayed from the common chest which I shall control while another member keeps the accounts.

'At present only a rough idea can be formed concerning the equipment and general plan for the journey. It should call for fewer hardships than the Caucasus expedition, and in the higher camps should be more comfortable than the Pamir undertaking, but the party will be kept as small as possible thus differing from other expeditions. Although we shall take porters with us to the higher camps to save ourselves much fatigue, yet we shall always do our share of carrying, possibly more than the porters. In cases of emergency we must be prepared to carry the whole baggage ourselves. Our secret source of strength will be that we hold together unconditionally: that each man does his best to keep his companions in a good humour, and that all submit to some sort of discipline—one of us must have the command. must not shrink from any kind of work, weather or danger; in emergency we must fend for ourselves entirely, and if worst comes to worst, put up with less than

the barest necessities without losing our good humour.'

Our means were restricted and our ambitions high: only the severest self-denial could unite the two. Knowing how we ourselves as well as the clubs to which we belonged, were situated financially, we felt it our bounden duty to live as simply as possible. We were firmly convinced, and this conviction alone rendered our plan remotely possible, that in an undertaking of this size money plays a secondary rôle. One has to realize that a practical equipment is better than a wealthy one, and so renounce any ambition to be labelled the 'best equipped expedition that ever left New York.' By carefully and laboriously preparing for every emergency one must avoid valuable loss of time and useless expenditure. By keeping careful accounts one must exclude all unnecessary outlay. One must avoid jealousy and share bread and meat ungrudgingly, so that nine men can convert a tin of bully beef and two pounds of potatoes into an uproarious banquet.—Two homines sapientes at meat only differ from two dogs snarling over a bone in as far as their table is plenteously supplied. There is more possibility of trouble over the food question than anyone will admit, who has always sat at a well-spread table conscious of his own good breeding.—A sleeping sack for two, a tent for four for months at a time, are conditions which are only possible where self-sacrifice, mutual consideration and comradeship, are so taken for granted that no one speaks of them. Neither I nor my companions would think it good taste to stress such obvious facts here. But perhaps I may touch on them once in passing.

After what I have written one can understand why I smiled to myself when the British Consul-General in Munich described us as tourists. But I raised no objections as long as he enrolled us among the ranks of those who had permission to enter India.

MUNICH—CEYLON

Our heavy baggage, fifty-one cases, boxes and sacks, was already afloat in the Mediterranean on its way from Hamburg to Genoa, when we said good-bye to our relations and friends in Munich on June 23rd.

On the Brenner we were aroused by cries of 'Passaporto,' 'Gelati,' 'Chianti.' Nine passports to India excited some attention, and our luggage received a searching look. The box with all our Himalayan literature was heavy and therefore suspicious. 'Open!'-a pity, it was the wrong one. Italy has such curious regulations concerning goods in transit, that we found it more practical not to reveal the whole contents of our boxes to every customs official. The hours, when visions of things forgotten and duties neglected usually rise up before one, left us untroubled. Once our suspicious boxes were all on board the Saarbrücken, we felt free to stroll about and bathe in careless enjoyment on the beach at Genoa. It was a wonderful relief to be able to relax after months of hectic activity, of worries over endless details, and of the weary struggle to raise funds.

Our ship clears Genoa harbour at midnight. A diadem of countless lights, lights from ancient, solemn, stately palaces, and from tiny huts which climb the slopes of the Apennines, encircles the horizon. Rockets flare in the sky, the great city throbs with a light floating rhythm, and under it pulses a joyous festal note. What can it be? Perhaps the resistless urge of a striving, expectant people who can scarcely await the coming of a new day? Perhaps

an unconscious, childlike joy of living after a good day's work is done? Stately and solemnly the ship floats out upon the Ligurian sea. We take one last long look and say good-bye to Europe. The music dies away in the soft summer night. 'Deutschland, Deutschland über alles.' It is a piece of German ground that glides along with us through the Mediterranean.

Elba, Stromboli, the Straits of Messina. Two days later Crete. Nine mountaineers thrill at the sight of snow patches on bare rock walls. Or is it after all only glittering chalk?

As far as the eye can reach the sea is like a mirror, deep blue, incomparable. One would like to be a rower in a Grecian trireme, if such a thing still existed. Why have the North German Lloyd or the Cretan Travel Bureau no triremes at their disposal? It must be a joy to tug at the oar in time with one's companions, till the proud vessel shoots through the blue waters.

One morning soon afterwards the ship is still. Rose red mists hide everything near and far, only the tallest tops of isolated palm trees pierce through; a fiery ball of sun rises over scorching sands. We are lying at Port Said, at the entrance to the Suez Canal. Teeming swarms of black, half-naked colliers are pushing heavy gangways against the ship to the accompaniment of unintelligible rhythmic cries.

Port Said is something quite new to us; by no means beautiful, but strange. The town has a curious oriental character with all the indications of quick development. It sprang into being with the Suez Canal and lives on that and on the strangers who pass through. Whole strata of population appear to be nothing but baksheesh sharks. Greeks, Armenians, Jews, the cunningest dealers in the world, hurl themselves upon the traveller. Our expedition treasury only allowed us very little pocket money when we went ashore, but could not prevent us

Munich—Ceylon

being badly taken in, one over a whiskey and soda, another over some purchase of fruit, a third by an interpreter. This was our first experience of dealing with oriental merchants and beggars.

The Suez Canal traverses flat sand dunes and shallow lakes, with Africa on the right and Asia on the left. Isolated trenches and the remains of barbed wire entanglements, make a curious impression in this region where a steady flow of war ships and merchant vessels, English, German, French, Italian, pass and re-pass peaceful as lambs. Then, solitary in the desert, the huge twin obelisks of Ismailia once again concentrate one's thoughts upon the experiences of war. They commemorate the soldiers of the Entente who fell in the war, but our thoughts turned to distant Germany, which once possessed the strength and courage to stretch out a hand towards this technically important centre of communication. All who pass may think likewise, though some may reach a different conclusion, and breathe a prayer that never again may Germany be able to unfold so much power.

The Red Sea in July is one of the hottest regions in the world. Day after day one traverses the vast girdle of desert which encircles half the globe from China in the north-east to the west coast of Africa. One can hardly believe that here, where evaporation must be very considerable, whole years pass without any rainfall at all. As long as the mountains of the Sinai peninsula and the continent of Africa remain in sight, one feels an occasional cool breeze, but after that the heat becomes almost unbearable. Several yards below the surface the water registers 95°. Even the English padre's little daughter jumps—fully dressed—into the bathing pool before her father can stop her. Ghastly tales of heart failure due to heat circulate among the passengers; rumours of stokers who have died, or maddened by the heat, have flung

themselves into the sea are spread around with full corroborative detail. Actually one first-class passenger died, whether from heat, tropical frenzy or whiskey, we did not know; these three causes so often combine. His commitment to the boundless deep far from relations and friends would have seemed very pathetic, had not something of the stern dignity of a soldier's funeral raised one's thought above mere sentimental emotion.

It was hard luck that we had to work in the hold in the midst of this inferno. We could do nothing before Port Said as we could not get at our baggage, and the high running seas which were to be expected in the Indian Ocean would have made the work too dangerous. So there we stood in the hold in this incredible temperature, dressed in bathing drawers, covered with perspiration, handling cases, boxes, bales and casks, packing and re-packing, noting contents, counting, nailing down and cording: in short, 'stock-taking', a procedure we were destined to go through many times in the future. Why? 'Why not? God knows!' would be my answer—one that I often gave my companions in place of a lengthy explanation when I thought it advisable to unpack and pack again, because for some good reason our plans were changed, fresh plans made, or because something had gone just a little wrong.

The Red Sea presented us with two sand-storms—instead of water it rains sand. A few minutes after these had appeared upon the horizon, everything was already veiled in darkness, the ship's siren blew nervously, the captain ordered the bulkheads to be closed. When the storms had passed, we found fine sand everywhere, in the beds and in the food.

To remind us that we were still in the region of biblical topography swarms of locusts came over our ship from Yemen, the Arabs' Paradise.

Munich—Ceylon

At the exit of the Red Sea the coasts again approached one another. A narrow entrance—Bab el Mandeb, the Gate of Weeping—shuts in the boiling hot basin. Like a stopper in this narrow neck lies the island of Perim. None of us had heard the name before: after seeing it none of us are likely to forget it. It is the coaling station. A flat heap of red, broken, burnt-out rock lies in the white shining sea. We walked across it and climbed to the observatory on its highest point. No trace of natural vegetation can be seen on the whole island. The few goats which the soldiers keep there seem to live off seaweed from old mattresses, and imported hay. In the living quarters of the colliers, the lid of a case or a rusty piece of corrugated iron seem to form the cornerstone of the house, while a sack of cement is a valuable piece of furniture. Huge oil tanks and coal dumps proclaim the purpose of it all; they command the view and the little houses of the Europeans are quite overshadowed. Only by looking closely can one see them, and near them a green arbour, behind it a white woman. The man stands outside, a white man in a topee surrounded by a gang of black colliers; he goes off in a black tender with coal or anything else the ships may require. I have often remarked since how naturally and unassumingly the English out there carry out their lonely, self-denying and very responsible duties. For years I had read the English daily papers without coming across any special mention of these men who help to uphold the British Empire. Here is a contrast worth thinking about: that we at home are often apt to eulogise our officials in similar positions for their exemplary service and devotion to duty. Are we not perhaps losing sight of the fact that such things should be a matter of course?

By the time the Gulf of Aden was astern, a good strong wind was blowing from the gap between the continent of Africa and the island of Socotra, bringing with it a

pleasant coolness. Under the lee of the high tableland of Socotra the sea calmed down again, but then the south-west monsoon burst on us with full force. It flung wave after wave of grey-black water from the boundless Indian Ocean into the Arabian Sea. The ship rolled and pitched heavily, the captain ordered the port-holes to be closed, the passengers were quiet and busy with their own concerns, seasickness claimed its victims. The deck and the dining-room gradually emptied. Even though our mess only reported two absentees, the survivors had to abjure intellectual recreation. Books lay unopened, the typewriter remained locked, and even our morning physical jerks had to cease. We stood in the bows or the stern watching the wild play of the waves, and the tossing of the ship until some huge roller drove us down again drenched through. During the night it suddenly became calmer, we were under the lee of the coral atoll of the Maldives which lie beyond the mainland of India and the island of Ceylon. The passengers reappeared, the dining-room filled again; those who had quite recovered renewed their activities. The couple of hundred passengers, many Dutch, some English, Americans, Swedes, Japanese, Chinese and a few Germans, already knew each other pretty well. Congratulations on a good recovery were heard on all sides. They were a thoroughly pleasant, well behaved crowd. The exceptions were two youths of a small European state. They had a most undesirable habit of speaking a grating, insolent German instead of their own tongue, whenever they wanted to make some unsuitable remark intelligible to a wider circle.

On the morning of July 14th, the surface of the water round us was covered with little sailing boats, rocking airily and lightly on the waves. Soon a dark line appeared on the horizon, we made out the tops of palm trees, the harbour railway station, and in front of it rollers breaking, high as a

Munich — Ceylon

house. Full of eager expectation we drew close to Colombo.

We were all waiting for orders as to whether plan A (Darjeeling Kangchenjunga-Group), plan B (Nain Tal Kamet) or plan C (Srinagar Nanga Parbat) was to be carried out, or if worst came to worst, we were to make it a pleasure trip for photographic purposes through the foothills of the Himalaya. During the last days we had worked like mad at these plans. Each man knew what to do in any given case. While we were still at sea a telegram had reached us with the news that the Indian Government raised no objections to our entering Sikkim, and would allow our baggage in free of duty. And so we decided

upon plan A.

While still on board ship the kindly German Consul-General, Herr von Pochhammer, had taken us under his protection. Before we reached our hotel all arrangements for continuing the journey had been made. The heavy luggage was taken to the custom sheds, and the necessary hand luggage, including the sleeping sacks, for usually one has to bring one's own bedding into the Indian hotels, was sorted out by our baggage supervisor, Fendt, and brought to the hotel. We booked our berths to Calcutta by the next Hansa Line boat. I had come to a quick decision to use the sea rather than the land route as we had originally planned; it simplified the luggage transport and was cheaper. We lost a few days, but had the opportunity of being initiated into our new and strange surroundings by well informed veterans, among them John Hagenbeck, who, though over fifty, was starting his career again out there, after a period of war. internment and confiscation of property. Actually there was no very great hurry at present, as we calculated that owing to the rains nothing definite could be undertaken before the end of August.

Colombo: At first we saw houses, streets, trams, all

pseudo-European, mixed with swarming natives, rickshaw boys, street pedlars who, together with the noise and dust, destroy the illusion. Dusty palms and magnolias in between the tram lines, unpretentious shops, native quarters apparently built from the dustbins of civilisation, all this did not fit into the picture which I had formed of Ceylon at home. Ceylon, the oldest tropical colony of Europe, and which had produced a line of great Singhalese kings. Only behind park walls, beyond the business; quarter, in the afternoon at Mt. Lavinia, on the journey's to Kandy or in the Botanical Gardens of Peradeniya did ' we see the true tropical landscape. Not until one has watched the hot day rise above the damp, fever-ridden paddy-fields, and between the dark green crowns of palm forests, or witnessed the sudden fall of night with its mysterious sounds trembling through the darkness beyond the town, or has stood in the hot midday sun in the Gardens of Peradeniya under giant trees amid fairylike vegetation, not until then can one realize even vaguely the nature of this country.

Although we did not manage to climb the well known Adam's Peak (7,425 feet) or Pedurutallagalla (8,331 feet), the highest mountain in Ceylon, we at any rate visited the last residence of the Singhalese kings, Kandy, in the interior of the island. The hours we spent en route in the Botanical Gardens of Peradeniya proved to be the greatest experience of the journey. The favourable situation in the mountains (about 1,650 feet), removed from the unbearable heat yet sheltered from frost, allows most of the earth's flora to flourish here. The almost uncontrollable fecundity of nature and the extent of the Gardens (which include a portion of jungle and a river), allow the authorities to dispense with the irritating regulations which usually hedge in similar institutions, so that one can roam free and undisturbed as in 2

Munich—Ceylon

paradise, picking fruit and leaves from the rarest trees. Kandy itself is a much frequented tourist centre. The kings made it their residency in later years: the last king being deposed by the English in 1815. They had laid out an artificial lake, and there built the Temple of the Tooth, the most famous and the holiest shrine of Buddhism. At present the temple is being re-built, new, three stories high and of ferro-concrete. My imagination had been stirred by the remains of Singhalese architecture which date back to the fifth century B.C. when Rome was still ruled by kings, and for which Anurhadhapura is famous. These ruins, now overgrown with jungle, are said to cover the whole northern part of the island, but are not found

Ceylon, which is about the size of Bavaria without the Palatinate, and with about the same number of inhabitants, has only 9,000 Europeans, including women and children. So our party of nine young men seemed like a considerable armed force here. The proportion in India is even greater, one European to over 1,000 natives. English colonists usually appear singly, so that when we all went out together looking rather like a military patrol, we were bound to excite notice. As war neurosis is still not everywhere quite a thing of the past, we were afraid that some local paper in this hot land of India might start a rumour of a German invasion of Ceylon. Luckily we were spared this, in fact the Press always treated us very well. Only once, when we went to Mt. Lavinia with the German Consul and other German ladies and gentlemen, did remarks appear in the Press to the effect that an unusual number of Germans were in Ceylon at the time.

These five days brought us various experiences: Brenner visited a Buddhist temple. To show that he was not trying to escape tipping, and to finish with it once for all, he gave the door-keeper half a Ceylon rupee—fifty

C

here.

cents. (Ceylon has a different currency value to India.) The news must have spread like wild fire throughout the whole length and breadth of the building into the Holy of Holies that a most open-handed stranger had arrived. He was received everywhere with extraordinary honours, every door sprang open. 'Noblesse oblige.' Everywhere in the semi-darkness and from behind curtains moved hands groping for baksheesh. Lamas stared so intensely and convincingly into the offertory plate wherein lay a decoy five rupee piece, that the whole allowance for Colombo, five rupees, remained in this one shrine. As Brenner left he could only indicate to the swarm of mendicants who had meanwhile collected outside, that all his money was inside the temple. He had to walk home, as he could not afford even a rickshaw.

Beigel had to go ashore once more from the 'Rotenfels,' on which we had booked for Calcutta, in order to buy food. We had come on board while the ship was still loading, and so had to cater for ourselves for a day.

'It is not so simple,' writes Beigel, 'you get out of your rickshaw and already three good business men know that "Sahib wants to buy fruit." After a few steps it becomes unpleasant. The sun burns down upon the pavement, without a topee one would get sunstroke. Perspiration drops from the forehead. You try to find your way in the surge of humanity, in the narrow, dusty, dirty little streets. The helpless, peering look of the Sahib, dazed by the tropical heat is an excuse to attack. "Sahib wish to buy some fruits, please master, here good fruits, very good fruits, fine pine-apples, oranges, bananas, five, six, seven pine-apples only one rupee. Come with me to the fruit market." You make a gesture of dismissal as if you were chasing away noisesome blow-flies or buzzing hornets, and quicken your pace in the hope of escaping until your beautifully pressed silk suit is discoloured with

Munich—Ceylon

perspiration, and your soft collar clings round your neck like a bandage. Before you reach the fruit market one of the black devils has constituted himself your guide. Turn where you will he follows, signing to the stall keepers, who know their decoy, that he is bringing them a sahib who is sure to have a lot of money and must not be let off cheaply. Several times, when the crowd was particularly thick I tried to shake off the pestilent fellow by a quick right-about; but in vain, he was at my heels again at once. Every time I bought anything he would join in and try and interpret for me. At last my patience gave out and I yelled at him "Clear out, curse you, I don't want you!" What does the creature do? He grins, steps back a pace or two, circles round me full of zeal, and begins again. I surrender to fate. Anything to finish as soon as possible, to get out of the shop and into the open air. Followed by the guide and two small half-naked brats who carry my purchase of coco-nuts, pine-apples and bananas on their heads in wicker baskets, I get into the little wobbly conveyance again. I dispense baksheesh-of course, as usual, too little—the coolie starts off, and the valiant shopman and the two black urchins run alongside for a few hundred yards, crying "baksheesh, baksheesh, master," till they have no breath left. The sahib then recovers consciousness, revives a little after his exertions, wipes the perspiration from his forehead, pulls at his shirt collar to loosen it, and makes a vow never again to go shopping in the native bazaars.'

TO DARJEELING

URING the following days we crossed the Bay of Bengal, and for the first time we really got to know the ocean and ocean travel. We were the only passengers, the whole deck was at our disposal to practise our physical jerks, we made voyages of exploration on the new, spick and span vessel, which we did not confide to the captain, and only cursorily mention here, and would dearly have loved to act a scene from the Flying Dutchman on the masts and yards. At night we sat forward in the bows, the crew joined us, and now and then a song echoed across the dark and shimmering depths of the sea. Night in the tropics is so strangely unfamiliar, even more amazing than the day. In the darkness a northerner feels his nerves tense, as though groping to prove this strangeness. However soft and caressing the breezes, however mild the temperature or sweet the perfumes, the body senses danger, the spirit sways between devotional amazement and suspicious caution. As we steamed into Madras harbour, we felt we were about to witness a fairy tale from the Arabian Nights. In front of the tall silhouettes of tapering palms, brown figures tossed upon the wild surf in boats so antique and primitive, that one could picture them as fellow voyagers of Sinbad the Sailor. Out of the great gate of the extensive harbour buildings poured a mass of humanity, gaily coloured, happily restless, as if they had come to celebrate the nuptials of a prince and princess. It would hardly have been out of the picture had the Giant Roc appeared and borne our

To Darjeeling

ship's cargo to the shore. But everything passed off quite normally. Instead of the Roc came huge cranes, the festive masses were just coolies who stowed away our goods. (The brilliance of their robes, turbans and loincloths contrasting with the brown of their skins, and their rhythmic movements, all gave them, in the mass, a lively, happy appearance, even if individually each is a dark apparition with halting gait.) Finally the boatmen stood revealed as fishermen whose antecedents had been converted to Christianity by St. Thomas (St. Thomas' Christians), and who, ever since, have preserved their Catholic Christianity, supported by a practical union (Mutual Life Assurance Association).

Our ship was three days unloading. We had leisure in which to study a corner of India which lies apart from the much frequented spots. Yes, this India swarmed all day long over our ship. Clad in their gayest garments, whole villages came with bag and baggage to inspect the 'German steamer.' Perhaps the word 'German' had stirred the popular imagination ever since the *Emden* had appeared like lightning in a clear sky, and blown up

the oil tanks of Madras.

We did not care much for the city of Madras. Without a car one loses hours in the network of uniformly narrow streets, and the heat soon tires one. Should there be something worth seeing, one is forced to move on by the crowd of importunate beggars who hurl themselves upon their victim. There is little of importance to see, and so the attention is directed all the more to things of everyday, general interest. There are the teeming masses of natives and their simple homes, there are temples set amid the busy bazaars. One hears the stirring music which floats from the inner precincts forbidden to us, and mingles with shouts of merchants crying their wares, and with the hooting of motor-cars. Bullocks amble along

the pavements, men, thin as laths, race past with easy strides, pulling a heavy two-wheeled cart through the narrow streets, while in the middle of the road two coolies have made a fire and are cooking some rice. As I learned to know them here and later, I confess to feeling kindly towards these people with their unpretentious simplicity, mystic fanaticism and good nature, in spite of dirt, neglect and beggary which seem omnipresent. The English are certainly nearer to us, they are our closest blood-relations in the world. With a glance, a handshake, we can understand one another, while no man can really divine what is passing behind those black brows, or what are the mainsprings of their thought and action. Public opinion at home sympathizes with the native and has little affection for the ruling English. It may be our democratic instincts that side with the natives, or that we count ourselves similar victims of politics with the depressed Indians.1 Perhaps we regard ourselves as a nation of poets and thinkers, and so consider the reflective Oriental with his inscrutable look nearer akin to us than the practical, materialistic Englishman. Or it may be the result of our righteous indignation at the demands of the Peace of Versailles and the treaties which followed it. But these surmises can be dismissed, for I am convinced that all these and even deeper causes would not suffice to maintain this general opinion, if we were to get to know India and the Indians at first hand. We have no need to take up a position either for or against England, nor are we called upon to solve the Indian problem. The English have a mandate in India and must manage it for themselves. Our only concern in India is to see that proper control is exercised, so that our trade does not suffer.

Madras plays a great part as a centre of Theosophy.

1Written thus in 1929.

To Darjeeling

Christ, Zarathustra, Buddha and others all have their peaceful devotees. We saw Europeans who live there as Buddhists, others live the life of a Hindu. We did not feel called to squat in front of a shrine with a bowl of rice, contemplating the Universe, and we had no time to grope our way through the labyrinth of Indian religions. Our ship's hold was gradually cleared, and at last we left for Calcutta.

The yellow floods of the mighty Hoogli colour the Bay of Bengal long before land is sighted. Perilously balanced on the crest of the waves, the pilot boat dances up to our ship and the pilot swings himself aboard. For nearly a day we pass up the river, the Vice-Consul, Dr. Eberl of Munich, comes on board and we sketch out a programme for the next day. Some gentlemen of the Press also join us. I beg them to say as little as possible about us and our expedition, pointing out that it is only an attempt, and that success depends upon many circumstances. I add that we particularly do not wish to earn our laurels in advance. I think very highly of these gentlemen in that they respected our wishes. Thanks to the ready assistance of the officials concerned, we disposed of the Customs formalities in a very few minutes. Hours pass at the quay until at last we are safely berthed; by that time it is midnight.

We do not leave the boat till next morning; then begins a full day's work. During the course of the day I visit the German Consulate-General, the Police authorities, the Survey of India, the Himalayan Club, the Sealdah Station (Calcutta's north-east railway station), and other places. Each of the nine had his appointed tasks, and by the afternoon we had done all our commissions, the baggage lay at the station, places had been reserved, passports, fire-arm licences were in order, and we were even supplied with Ordnance Survey maps, thanks to the generosity of

the Himalayan Club, and especially of Major Mason. We saw this kind friend again that evening at dinner at the Consulate-General. Then we boarded the express for the Himalayas.

Calcutta flew past us in a flash; we noticed a few well laid-out streets, in the suburbs park after park behind high walls, for the rest, noise and crowds. Here, too, cattle amble along the pavements, women sit between the tram-lines and cook. All day long I was filled with amazement that cleanliness and order could reign amid this chaos of humanity. There are difficult problems to be solved here. Small details, such as the fact that every vehicle bears a plate with its owner's name on it, prove that this apparently uncontrollable crowd obeys its own laws. This helps to set the stranger's mind at rest.

The train bore us swiftly through many miles of flat country, we tried to sleep in our compartments as much as excitement would let us. Before dawn the carriage was already stirring. Small arsenic-green paddy-fields, intersected by irrigation trenches and walls, and fenced by copses of banana and palm, stretched out endlessly on both sides—native smallholdings. Ahead, between heavy clouds, one sees a wall of dark, wooded hills. Suddenly the clouds lift—seconds pass before we can realize, can find our speech again—there, in overpowering dazzling purity, in perfection of sculptured beauty, high over the clouds and the wooded hills, nearly 28,000 feet above us, Kangchenjunga shines in the firmament.

A different population crowded the platforms at Siliguri, the terminus of the broad-gauge line. A happy people, with honest laugh and sturdier physique, Himalaya folk mingle with the depressed, angular, lean natives. A distinguished-looking man of lighter colour, with a Mongolian strain, hands me a paper. He is a sirdar (head porter and caravan leader), and has been sent by Lt.-Col. H.

To DARJEELING

W. Tobin, Hon. Sec. of the Himalayan Club in Darjeeling. In front of the station stand eight motor-cars; he is to load our luggage on these and bring us up to Darjeeling. Already the Himalayan Club surrounds us with its solicitous, true comrade-like assistance. A few hundred vards from Siliguri station begins the marshy girdle of jungle, the "Terai," which fringes the eastern part of the Himalayas. It is the most unhealthy district in all India, an unrivalled country for shikar, but practically uninhabitable. As we plunge into this green, steeple-high jungle, a damp heat surrounds us. The monkey tribe does not even scatter at the noise of our motor-cars, nature seems so predominant that man and his machine count for little by contrast. Here and there the little narrow-gauge railway crosses our road. Compared with the giant, primeval trees it looks like a plaything of these great dusky children. Slowly, curve after curve, our cars mount to more sparsely wooded heights; the first tea plantations appear; then we pass into the mists, having risen from the plains (about 230 feet) up to the clouds, and approach the outlying bungalows of Darjeeling which lies here between 5,900 and 7,900 feet on the first spur of the Himalavas. It is the refuge of the European who has to work in the hot climate of the plains. In the summer even the seat of Government is removed here from Calcutta. At the moment, the German Consul-General for India, Count von Bassewitz, was staying here, so that we again received the sympathetic and extremely valuable assistance of our representative.

A thousand questions had to be answered here, and upon their solution depended the fate of us nine men during the coming months and the success or failure of the expedition. It is impossible even to touch upon the minutiæ of detail which presented such problems and which had to be adjusted at this stage.

Thanks to the assistance of the Himalayan Club and to the friendliness of the authorities matters were settled in a very short time. The kindly protecting hand which Mr. Blandy, the Deputy Commissioner and Senior Administrative Officer for the Darjeeling district, held out to us, guaranteed that all papers, the passports for Sikkim, the permission to use the government rest-houses, etc., were expedited without loss of time. Here nothing can be taken for granted, for every journey in this corner between India, Tibet, and Nepal must be regarded by the government differently to what it would be at home. A private tourist, even, might, by some accident, mischance, or clumsiness, easily provoke political complications.

Sardar Bahadur W. S. Laden La, General of the Tibetan army, Superintendent of Police in Darjeeling, lent us his support in a most generous manner, and gave us firsthand advice from personal experiences of which, as scion of an old, long indigenous Sikkimese family, he had a rich selection. His home was an island of Tibetan culture in the European garden city of Darjeeling. My new surroundings were so strange to me, that I was within an ace of sitting down upon the tea-table when invited to take a seat. But Laden La's daughter saw the danger threatening and skilfully manœuvred me to a piece of furniture which I had taken for a footstool, and which now stood revealed as a chair. I had imagined the Tibetans—the most aristocratic families in Sikkim are Tibetan—as a simple race of herdsmen, and in consequence was very surprised to find a high degree of domestic culture, of oriental luxury, but also marked individuality. Up here above the plains of India, Chinese influence in questions of colour, form, dress and painting showed us the uniformity and extent of the Chinese sphere of culture. This too I discovered, that the Tibetan women are far prettier than repute has it. There are charming

To DARJEELING

faces which might be called beautiful anywhere in Europe; their clothes are lovely and in excellent taste, and fit well into the domestic picture.

Meanwhile we had decided upon the Gangtok-Lachen route of approach to the Zemu glacier. We had had the choice of two other plans: Plan AI which at first seemed to promise best, fixed the route over the Singalila ridge which runs south from Kabru, and has Darjeeling at the end where it curves to the east, over Djongri to Alukthang (between Kabru and Pandim). The idea was first to attempt Kabru and so gain some experience of the new conditions, and at the same time examine the south-west face of Kangchenjunga. According to results we would then cross the Guicha-La and the Zemu Gap and inspect the north-east side, especially the east, north, and northeast ridges; we would hardly have had time to make a serious attempt upon Kangchenjunga itself. Plan AII was drawn up in case we obtained permission to enter the highland of Nepal. After conquering Kabru we were to cross the pass which Raeburn had discovered south of Kabru, or go over the Kang-La. Then we would examine the south-west and north-west sides. (The international Himalaya expedition operated on the north-west side in 1930.) Plan AIII had at first little chance of success. It proposed to approach via Lachen and the Zemu glacier. We planned to make side excursions to Simvu, Twins, etc., and then, if circumstances were favourable, to attack Kangchenjunga itself from the Zemu glacier or from the Kangchenjunga glacier.

As the permission to enter Nepal had not yet arrived, we abandoned Plan AII. As the Zemu Gap was described as very difficult and the weather was worse in the south than in the north, and finally, since all of us hoped and believed that Kangchenjunga itself was the objective, we passed over Plan AI which centred round Kabru, and

made up our minds if possible to attempt Kangchenjunga

by way of the Zemu glacier.

The natives were soon squatting in their hundreds in front of our bungalow; some had come from great distances, from the interior of Sikkim and Nepal. Head porters, cooks, body servants offered their services and displayed their references. Acting upon instructions from the Himalayan Club, the former Everest porters had already assembled, and we actually had nothing else to do but hand over the recruiting of the porters to one of the experienced sirdars who stood ready to hand with the picked men. But by so doing we would have been allowing the management of the expedition in matters of great importance to the general safety to slip out of our grasp. Financially too, it would have meant further commitments, for we were in the East, and a little peculation is only considered an extra perquisite. We wanted to have our porters under our own eyes and dispense with the sirdars when possible. The methods of handling subordinates are fundamentally the same all the world over. I studied them as a private in the war, and later practised them for many years as platoon and company commander. I had come to India convinced that it is possible to make useful co-operators out of anyone in the world, provided one takes a personal interest in their welfare and future, remains at one's post in times of danger, gives few orders but insists upon the few, respects a man's rights but notes and suitably punishes any lapse of duty. This is why we wished to get into personal touch with our porters, even when first selecting them. It was none too easy as we did not yet know how to approach them, and their strange faces were still inscrutable to us. In order to gain time, we started by instituting a medical examination. In the wash-house of our bungalow more than 100 men were lined up and thoroughly overhauled by Allwein and

To Darjeeling

Kraus. Their general deportment and gestures soon gave us some inkling of their mental equipment. The keenest among them crowded round the door, and leaning across one another, flattened their noses against the windows, till the room was quite dark. A lively young herdsman from Nepal had been brought by his father to be inspected. When he was accepted, he executed a dance of joy, throwing his hat in the air. He turned out to be one of our best men, his name is Pasang (or Pashang). But many of them had to retire sorrowfully. In this way we selected about 100 porters, among them fifteen Everest men; in addition to this we engaged two sirdars, two cooks, and one interpreter.

Fortunately our equipment was quite ready and only one problem still remained. We had to convince our English advisers that it was adequate. From the general conversation after a dinner of welcome given at the club by Mr. Shebbeare, the transport officer of the Everest expedition, I gathered that it was very necessary to dispel any misgivings on this point. When we had returned to our bungalow long after midnight, I gave the order for 'stock-taking'. Our dress clothes disappeared, and clad in an old pair of trousers we began several hours' work of unpacking and repacking. Any fumes of alcohol were soon dissipated, and by 7.30 next morning we were able to display our whole equipment as promised. It was so complete that, except for a few woollen vests for the porters and some enamel pots and pans, we had nothing more to buy.

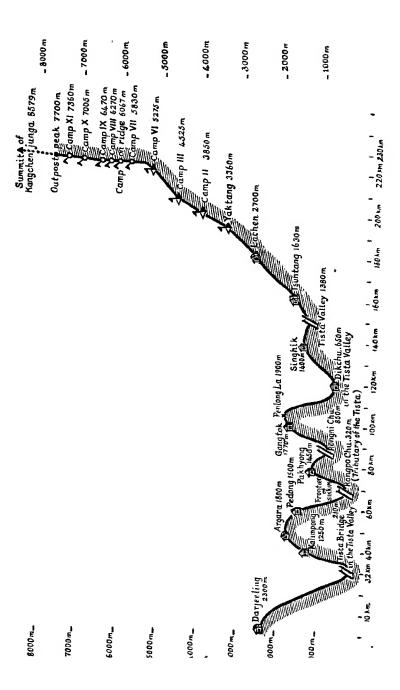
Food supplies and methylated spirit proved a more difficult proposition. Beigel struggled manfully with his fragments of English, until he charmed the shop-keepers to disgorge what in many cases were quite unusual articles. Soon twenty-five coolies laden with 15 cwt. of supplies stood in our bungalow ready to

march. Beigel next bought an extra thirteen tins of petrol containing about two gallons per tin, and returned home proud as a peacock, followed by a train of coolies. We had calculated the amount of food required for our porters from statistics of the Everest expedition and Mason's expedition to the Karakoram. A merchant in Gangtok was commissioned to have the supplies ready for us there when we passed through.

The third day after our arrival in Darjeeling the first column of porters was ready to start. It was a lengthy business. In the presence of Lt.-Col. Tobin, Mr. Shebbeare and all the members of the expedition, each porter was called up by name. They had melodious names, Pasang, Shigatsewa, Mingma, Bhutia, Tashi, Tondup, etc. Each man was solemnly handed an advance of fifteen rupees in hard cash, and then received his pack. Outside they handed the money over to the women who set about padding the packs. Ages passed before the forehead girths were properly adjusted, then came a final drink of rice wine, each woman hung a white veil round the neck of her departing spouse to bring him luck, and the journey to Kangchenjunga began.

THE next day six Europeans with the motor-car followed the first detachment of porters. The day after that about fifty more porters left, and finally, when all was in train, Leupold our treasurer, Fendt our baggage supervisor, and myself with Samdup the interpreter quitted Darjeeling. Mr. Laden La came with us as far as the road was practicable for motor traffic. We parted some eight miles out. Mr. Laden La who had our success at heart, gave our expedition a true Buddhist's blessing. He placed a white scarf round each of our necks and admonished us to respect the sacred mountain, never to rail against it or curse it, and to grant the porters sufficient time at the full moon duly to perform their devotions to it.

Two hours later saw us engulfed by the steaming hot, wooded slopes of the Teesta Valley. At first we marched sternly and decorously along the narrow forest track past tea plantations down to Pashok. The 'Snows'—as they are called in Darjeeling—were, after five days, still hidden in clouds. The peculiar nature of the country filled us with wonder once again. It is really remarkable how much more steeply the Darjeeling ridge falls away on the Himalayan side than on the side which faces the plains of India. It overtops the mountain ranges on the other side of the Rangit Valley, and acts as a barrier between the plains and the wild labyrinth of the ravines of the Teesta district, and thus gives to Sikkim its peculiar geographical characteristics. The sketch shows the great differences of altitude which had to be surmounted during the attack on Kangchen-



junga (see Map p. 32). From Darjeeling on a foothill of the Himalayas (7,545 ft.) one descends over 6,550 ft. into the hot Teesta valley. Then steeply up 3,275 ft. to Kalimpong, on past Argara (5,900 ft.) and down again into the 5,000 ft. deeper gorge of the Rangpo Chu, 3,600 ft. higher is the next mountain range at Pakhyong. After the deep cleft of the Rongni Chu one reaches Gangtok and the Penlong La (6,230 ft.). For the last time the road leads down into the jungle of Dikchu and reaches the actual Kangchenjunga massif. Climbing continuously one comes to Lachen (8,850 ft.) and follows the course of the Zemu river up past the first camps to the glacier, on whose broad back the 14,840 ft. high advanced base camp is pitched. 10,415 ft. higher is the highest point reached by the expedition and 2,882 ft. higher rises the untrodden summit of Kangchenjunga (28,137 ft.).

As we moved across the exposed ridges and looked down into the maze of densely wooded valleys to the northward, all our many recent worries, great and small, simply vanished. The days of planning, calculation and deliberation were over, and now we could begin. Exulting, we tore through the trees down narrow paths. The march became a race, a test of our powers of weight-carrying, and our bodies stood the test. By the bridge over the Teesta (27° 41' N. lat.) we gasped for breath, our faces brick-red and running with perspiration.—The first detachment had behaved in precisely the same way, a proof of the general spirit of the expedition.—We had dropped from 7,870 ft. to 680 ft. and now found ourselves in one of the hot, damp, malaria-infested valleys of Sikkim amid a vegetation of unparalleled wildness and luxuriance. We were greatly relieved to find two cars waiting for us here, for the march beyond the Teesta up to Kalimpong (4,000 ft.) even with our light packs would have tried us severely in the great heat.

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There is also a way up to Gangtok through the Teesta valley, but this is better avoided in summer because of the unbearable moist heat and the great risk of malaria.1 So we made our way across the lateral ridges. From Kalimpong we marched to Pedong (4,900 ft.), and then down into the deep hot valley of the Rangpo Chu,2 up again on the other side to Pakhyong, then down again to the valley of the Rongni Chu (2,800 ft.) and up to Gangtok (5,800). Our day's marches were short, on an average about twelve miles; they were determined by the distances between the government rest-houses which served us as night quarters. When calculating them from Darjeeling these distances had seemed very short, but we had agreed to content ourselves with easy stages to start with until we were acclimatized to our new surroundings, after which our day's work could be increased. However we soon realized that in such heat, and allowing for the great differences of elevation, twelve to fifteen miles was a good normal day's march. Nor could we expect more of the heavily burdened porters. As it was, the column spent most of the day on the march.

The sirdar Naspati, the cook Tinley and our porters welcomed us in Kalimpong with friendly salaams. The baggage was already there except for two cases which, we were informed, were on the way. Everywhere were friendly faces; our own servants vied in their offers of help. Our boots were taken off our feet, a clean shirt laid ready to hand, the sleeping sack spread out on the bedstead, and the bath prepared. We had not imagined that the beginning of our journey would be so luxurious. But we felt that there were good reasons for our behaving as, apparently, we were expected to do; things would in any case soon be

¹After landing at Colombo we took quinine regularly as a precaution against malaria.

²Chu pronounced tschu in Tibetan = water, stream.

different. Without any qualms of conscience we spent a glorious week in these airy bungalows so wonderfully situated, enjoying the happy activities and zealous attentions of our large staff of servants. At night, while the monsoon rains beat down upon the roof, and the porters were sleeping in rows outside in the compound, we felt very snug and at home.

We quickly got to know the faces and even the names of the porters, the keenest of whom soon attracted our attention. We Europeans too had our nick-names. Beigel was the 'big gentleman', Brenner the 'picture gentleman', etc. I became the 'General Sahib', as ever since General Bruce's time they were accustomed to think that the leader must be a 'General'. Ignoring all linguistic difficulties they chatted away to us about matters of interest, personal and otherwise. For instance, on the following day, at Pedong, Kraus' batman asked leave to visit his wife who lived in the neighbourhood. He quickly finished his work, and received, as usual, a cigarette as reward. This he carefully cut in half, explaining with grins that one half was for his wife. Of course he got two more cigarettes, one for himself and one for his wife.

Presently with pride they brought us their home-made beer 'Marwa.' It may be that the reputation of the Bavarians as brewers—and we were generally known as 'The Bavarian Himalayans'—had already reached them, and that in consequence our opinion carried especial weight. The drink was not bad, although the sight of it might easily upset one, seeing that it was served in a steaming bamboo jug, grey with much use. A scummy residue floated on the top through which was passed a thin, small bamboo reed which was obviously no longer new. Through this reed the beer is sucked out from the dregs: it tastes somewhat like fermented gooseberry or red currant juice. I could never quite discover how it was

prepared, and only know that the millet is first of all pounded in a mortar and that finally hot water is poured into a hombon into the pounded millet.

into a bamboo jug on to the pounded millet.

Late that night Lieut.-Col. Tobin reached Pedong; he was to prove a very pleasant companion and friend to us during the next fortnight, and rendered us invaluable service in our negotiations with the porters. Soon after Pedong we left the great trade route which leads over the Jelep-La (La = Pass) and through the Chumbi valley to Lhasa and is particularly mentioned in the accounts of the Everest expedition. Our way led far down into the tributary valley of the Rangpo.

Every quarter of an hour the vegetation changed; higher up the forests had some slight resemblance to ours at home, though they differed entirely in detail—for example, the oaks there have leaves shaped quite differently from ours. Next the scene was filled by picturesque groups of magnificent giant bamboo bushes, while paddy-fields glistening with water rose up in terraces along the steep valley slopes. After these came plantations of maize and bananas, and finally in the valley depths we were surrounded by dense primeval jungle with its wild lianas trailing everywhere.

That morning we made the acquaintance of the blood sucking leech of Sikkim. Throughout the length and breadth of India down to Ceylon everybody had told us about these creatures, but we had already been three days on the march without seeing one and so had almost ceased to believe in their existence. The interpreter saw the first one; it was a prize specimen, it clung with its hindmost suckers to a stone in the path and groped about to find some point of contact. Full of interest three of us bent over it, Tobin kept somewhat in the background. So this was the leech that everyone dreaded. A quaint little fellow we thought (being safe out of reach), and

behaving like a gentleman. Suddenly a fearful triple oath rent the air. Wherever we looked, on the path, on our shoes, our puttees, our trousers, swarmed tiny, threadlike, uncannily active leeches. We squashed masses of them with our ice axes, but it was a hopeless job. While we were freeing one boot, they vanished into the lace holes of the other, into the seams of our boots and between the joints of our puttees, their eager tongues thirsting for blood. Only swift flight could help us, and for an hour we tore down hill till we stood by the river below. On a rock in the stream I took off my boots and stockings: three bites on the left leg, three on the right. The perpetrators had expiated their temerity with their lives, they had been crushed to death between stocking and boot, nothing was left of them but a spot of blood. In the course of time we learnt that these leeches do not occur in the deep, hot valleys, and are rare above 5,000 ft., although bites have been found even at 10,000 ft. One is safe from them in quite dry districts, but where it is damp, and especially in the proximity of cattle, a hasty retreat is the safest measure of protection. The bites are not poisonous, but may continue bleeding for days before healing. Those upon our porters' bare feet became badly inflamed owing to infection, and would not heal completely till we reached higher altitudes. There are various methods of guarding against them, viz., dabbing with a salt solution or citronella oil. But these only last a short time. The creatures too take it ill if one holds a lighted cigarette to their tails, they fall off at once and even the bite closes.

On the further bank of the Rangpo our passports were examined by a well-groomed Sikkimese customs officer, and we stepped across the frontier into independent Sikkim.

This small state of some 87,000 inhabitants (1921)1

^{1 1931} there were already 109,808 inhabitants, an unusual increase of population.

and 2,800 square miles, lies between Bhutan and Nepal, and affords the only possible means of access to the eastern half of the Himalayas since Nepal and Bhutan are closed to Europeans. Nepal (5 million inhabitants and 54,000 square miles) is in the interior and is independent as regards its external political relations with the neighbouring states; its external political relations with the other states are controlled by England and contact with the Maharajah of Nepal is maintained by the British Resident in Katmandu, the capital. The Gurkha regiments, whom the English consider the finest soldiers in the world, are recruited in Nepal. When they have served their time, they mostly return home, so that the government of Nepal has at its disposal an army of men who are thoroughly well trained as well as being natural fighters. In the case of Bhutan the circumstances are somewhat similar, its frontiers are completely closed to Europeans. On the other hand Sikkim, which has always been the territory connecting India and Tibet, could not maintain itself so independently. The southern portion of the country (the Darjeeling district of to-day) was bought by England and now the Maharajah of Sikkim has a British Minister to advise him.

We now entered independent Sikkim. Quite imperceptibly the scene took on a more primitive aspect. Teaplantations, and other evidences of European initiative such as churches and schools, disappeared from the countryside. It was a hot, tiresome tramp up to Pakhyong. Many a topee-full of water did we pour over our heads. In front of me marched my personal servant, Kami; full of pride and importance he carried in addition to my ruck-sack a large leather gun-case. I hardly took my eyes off it for it contained not, as Kami thought, a sporting rifle, but our war chest in bright coin.

In Pakhyong I got a horse and the next morning rode

Through Sikkim

out to Gangtok in order to buy supplies for the porters. The merchant had kept his promise and all we required lay ready at his storehouse in the bazaar. It was a typical oriental bazaar with similar types, similar stalls and similar customs to those we knew from pictures and descriptions of the Near East.

I spent half the day at the warehouse surrounded by weighers, porters and packers. Their movements interested me as much as the little indicator on the scales, and the quality of the atta, rice, tsampa and other supplies which I was buying for our porters. When everything had been systematically collected and sewn up in sacks, each weighing 54 lbs., I paid by cheque on our account in Darjeeling. The man had served us well and I made an agreement with him to supply us further, in particular to furnish us with plenty of small silver change.

Arrangements for our lines of communication to the rear had now been completed down to the last detail. In a few days the leading party would reach the entrance of the Zemu valley where we had to leave the well known beaten track and by our own efforts force our way through the jungle. I was very keen to be in the front rank myself during these critical days, so as to make such decisions as were necessary. The next morning I set out with the interpreter Samdup for a wonderful ride, carrying with me only the barest necessities in two saddle-bags. Our horses galloped out of straggling, beautifully-situated Gangtok open high-road to Penlong-La and its fluttering praying-flags. Beyond that the road dips far down into the Teesta Valley to Dikchu. The vegetation which up at Penlong-La was almost like our own in form and species, here becomes visibly more luxuriant. One is soon surrounded by the ear-splitting noise of thousands of crickets. To anyone riding through this fairyland, amazement never ceases. Jutting rocks with delicate

palms, huge ferns of regal aspect, trees with a wild tangle of aërial roots, festoons of lianas up to the highest tree tops. Every inch of ground, every rock is swamped in green, and with it all the deafening noise of countless small creatures and the myriad-fold reflected rays of a burning sun. Standing midway on a suspension bridge above foaming waters, between the impenetrable, greencurtained sides of a gorge, one is overwhelmed by the bounty of Nature.

For hours the way goes through the forest, opposite one the Talung valley opens out and disappears again. For the first time, in the background, stood Kangchenjunga. Bulwarks of ice tower above hot tropical valleys. They are our goal; the icy solitude, the grandeur up there is nearer to us than these valleys that re-echo with the endless, strange sounds of life. Darkness falls quickly and still we have not reached the bridge over the Teesta. The path leads steeply downwards, the pony goes nervously in the dark. Off I come! The interpreter with difficulty rolls himself out of his saddle, he would rather have remained sitting. I tear downhill in big strides pulling my beast after me. We dive down into a gloomy ravine. At last something glistens between the tree trunks, the river is close by. The silhouette of a bridge pier stands out against the narrow strip of sky. With his nose on the ground the animal clatters over the wet and shiny planks. The bridge sways perilously, the raging torrent calls for caution. On the further bank we mount again. The ponies need no urging into a canter, they too have had enough of the forest. The mere thought of that damp undergrowth teeming with leeches and other creatures suffices. But all to no purpose, the whip whistles unceasingly through the air, the ponies gallop fast as long as a glimmer of light remains. Our eyes pierce through the blackness, with hands and thighs we grip our horses

ready to brace them up if they should stumble, but they do their very best and are more sure-footed than ever. Sheer beneath us the roaring of the torrent fills the densely wooded gorge, growing louder and louder. The path, supported on swaying planks, crosses over a sand torrent so steep that we hold our breath till it is passed. Then it climbs giddily up over a projecting rock. We have to give it up, dismount panting, and lead the horses; we trot, pulling them after us, wherever the ground is more level, and finally mount again in safety. The path ends abruptly, the river is below us. We carefully turn the horses round. The Tsuntang bridge spans the black, roaring chasm just behind us. We could now see the brightly illuminated bungalow on the further bank.

The members of the first detachment were seated round the table as I appeared in the doorway of the dining-room, still holding my beast by the halter. They greeted us as if we had not seen each other for years. The porters rushed up and in a flash had exchanged our sopping wet garments for dry ones, while all that remained of the leeches that had clung to us in swarms,

were a few spots on the floor.

The place is called Tsuntang (Wedding meadow, tang = meadow), because the Lachung-Chu and the Lachen-Chu join here. It lies 5,350 feet up. Through a narrow opening in the valley to the north shines an ice peak. The 16,500-foot mountains that surround us show bare upper slopes covered with low scrub, while the valley vegetation is as luxuriant as ever. As we were marching off from Tsuntang and the porters were just about to shoulder their loads, the bungalow keeper (chowkidar) came up to me and whispered softly but urgently: 'Sahib, bath not clean.' Now we were in for it, and now it was up to me to deal with the fellow. India is the land of castes, a man only does what his caste allows him to. At

home the word has an unsavoury sound, generally used by those who belie their own station because it appears beneath them, and hate their superiors because they seem out of reach. But in India caste is the foundation of all economic and social order. No one there would pick a match off the ground or sweep a floor who did not belong to the sweeper caste. This caste alone is allowed to clean out the bathroom, which is at the same time the lavatory. Every bathroom in India has a concealed entrance from the rear. Every morning and evening the sweeper appears there with that modest and sometimes so shameless meekness of carriage and gesture which is the peculiar characteristic of the low caste native-not for nothing did Gandhi coin the phrase 'passive resistance.' The sweeper gracefully carries a little basket on his arm, into this vanishes a little pot, and the sweeper vanishes with both. I have never followed him and so cannot elucidate the matter further. The arrangements are exactly the same in the bungalow. Travellers must bring their own sweeper or refrain from using the bathroom.

Sometimes a sweeper can be found in the neighbour-hood. We had relied upon this, and our first question on entering a bungalow had been: 'Sweeper hai?' If the answer was in the negative, then the pass-word was 'Jungle.' If this was ignored, then the Sahib had to do the sweeping himself in the early hours of the morning, since none of our men and no native would have done it.

In this case these duties had been somewhat neglected. As superior officer—whose activities seem to be endless—I had already noticed this when going my rounds, and was not unprepared. I quickly drew the man to one side before he had a chance of exposing us to our people. It would be all right, he said, for ten rupees he thought he could provide a sweeper. Had he been ill-natured, he might have got us a sweeper from Darjeeling at our

expense, and this sweeper would have employed a porter to carry his 'luggage' after him, likewise at our expense. Sweepers are a class-conscious caste; they receive wages like cooks. In the estimation of their countrymen they play no mean, degrading rôle such as a caste of lavatory cleaners might play in Germany.

Throughout our march through Sikkim the weather had deceived us most pleasantly. The dreaded rains which in Darjeeling never ceased all day, here fell pretty regularly in the hours between late afternoon and early morning. Almost without exception the days were dry, often even sunny and blue. The day in Tsuntang too dawned radiantly beautiful. At first we had to negotiate cliffs on the eastern side where the path had fallen away, this proved difficult and wasted a lot of time. At various spots the path was being repaired by workmen, men, women, and little children. They were mostly Lepchas and appeared to be very skilful, and, as we realized on our return journey, are quickly at hand when there is any damage to repair. But the steep gorges demand most intricate and skilful engineering, and the perpetual rain storms cause continual landslides and undermining. Consequently the path is nearly always interrupted at one point or another, and since a detour may be possible for skilled porters but certainly not for beasts, it would be taking a great risk to attempt to traverse the Teesta Valley with beasts of burden. The valley gorges are naturally so impracticable that, for example, the journey from Singtam to Dikchu, the nearest place in the valley, is always made via Gangtok and the 6,230 ft. high Penlong-La.

At midday we entered a new zone. At an altitude of about 8,850 ft., on a terrace above the river gorge, lie beautiful clearings of pasture. The air is exquisite. The plants are finer, the blossoms fuller than with us—potatoes, beans, apples and pears flourish here as well.

Amid these unique surroundings, at the foot of the white peak of Lamgebo, and above the distant open valley of the Teesta, stands Lachen, the last settlement we were to touch on our journey. Everything here suggested home to us: the mountains, the plants, the air, the houses. The houses especially are exactly like our mountain chalets. The people too are different from the valley dwellers, freer, more sincere and virile; there is already a preponderance of Tibetans here. In any case the stranger will find the population of Sikkim a puzzle. One sees so many different types that it requires no special previous knowledge to realize that one is on an ancient thoroughfare.

Side by side with the wanderer from Tibet who, clothed in a rough woollen carpet-like garment, traverses the vast spaces of inner Asia with only his praying-wheel, one sees sunburnt figures with the caste marks of the Hindu, some in pleasantly coloured cotton robes, others in only a loin-cloth. Other races pour into Sikkim from the north, south, and west. The Tibetans who come from the north, have for centuries held the highest positions in the land; the whole nobility, as well as His Highness Sir Tashi Namgyal, the Maharajah, is of Tibetan blood. The aboriginal Lepchas were long ago pushed back into the jungle. There they live a timid, modest life, at home in familiar surroundings. No language is said to possess so rich a variety of plant names as the Lepcha. Cheek by jowl with the peoples of the Indian plains who live in Sikkim as merchants and artisans, one finds above all people from Nepal. Among these are the Sherpas, a race from eastern Nepal with an Aryan strain. They have been immigrating recently in considerable numbers and settling down as smallholders on the middle uplands of the country. Our porters were roughly half Tibetans who called themselves Bhutias, as well as Sherpas; just occa-

sionally we got people from Lachen, who have a strong

strain of Lepcha in them.

Our arrival caused great activity in Lachen. The natives gazed with interest, but also with polite reserve, upon our baggage and upon ourselves. They crept around, debating how much they could charge us for chickens and eggs, for potatoes and beans, for sheep, etc. Our porters soon made friends and found quarters with the Lachenese; they had been promised two days' well-earned rest here. We ourselves counted our cases and supplies, unpacked, packed, and repacked, in short, did some stock-taking in order to see that the advance party which was due to leave first thing next day, should be fully supplied.

INTO THE ZEMU VALLEY

N a glorious morning, fresh with dew, the first detachment. Aufschnatter K-----Lachen. By the bridge over the Zemu river we climbed up the abutments of the cables. As far as one could see into the Zemu valley, the slopes were covered with dense forest. We knew all about Freshfield's journey through this valley in 1899, and had carefully studied Dr. Kellas' various visits from 1907 to 1911. But we had also learned that in the intervening years other parties had returned after many days' hopeless struggle with the primeval jungle, without having succeeded in reaching the glacier. And so we felt that careful provision must be made to avoid wasting both time and energy at this stage. The porter Nursang, who came with us, had been here with Dr. Kellas as a lad. He still had a dim recollection of the route. With his help we found barely discernible tracks which led into the jungle on the north side of the Zemu valley. With axe, bayonet and kindschal—a Suanetian sword which I had brought from the Caucasus, made of excellent steel—we hacked out a path. The deciduous undergrowth was soon replaced by a vegetation which was quite strange to us. We entered the rhododendron jungle. Pools and black bogs yield a confusion of red, shiny, curling trunks as thick as an arm, which, with endless ramifications, bear at a height of seven to fourteen feet, beautiful leaves a hand's breadth wide. These form a canopy so dense, that only in the clearings can one catch a glimpse of the huge conifer and deciduous

INTO THE ZEMU VALLEY

overgrowth, or even of the sky itself. We tried swinging and leaping from root to root and from rock to rock, till we were wet and covered with mud. Then we yielded to the inevitable, and tramped through the morass. The scene changed frequently. Where the ground is dryer and steeper one finds leafy undergrowth, high shrub and large thick plantations of dainty, slender bamboo. With much toil we hacked our way through this labyrinth, and to our astonishment lit upon a clearing with a 'potato patch' and a simple herdsman's hut (on the Ordnance Survey map the spot is called Thalemo). The path now improved. The first of the streams which rises in the mysterious and distant north, and suddenly pours through the green wilderness, was well bridged (on the Survey map Lhonak river and Zemu Chu). We passed another hut with a potato patch (11,150 ft.). The natives call this place Tsetang (millet field). We then reached the spot called Yaktang (Yak field) on the map. The bridge over the Zemu river (Poki Chu on Freshfield's map) had quite recently been repaired. We crept into the old herdsman's hut to escape the afternoon downpour and spent the night there, while Thoenes and the porter went to Lachen to announce our welcome discovery and give Nursang and the porters their marching instructions. At first we were puzzled at these settlements in the interior of the Zemu valley, which had no communication with Lachen. Later we learned that the grazing lands belong to the Tulung Monastery, that the cattle come over the Yumtso La and not through the Zemu valley, and move on towards the north into the Lhonak district. There is apparently extensive traffic between the Tulung Monastery and Tibet which crosses the middle of the Zemu valley at Yaktang. It seems to me very remarkable that the threads of communication appear to run north rather than east or west, showing how important a part Tibet plays in these districts.

The next morning we at first attempted to proceed on the south side of the stream, as we knew that only after a certain amount of difficulty had Freshfield been able to cross from the north to the south bank higher up. we found the going impossible. So we again relied upon the path on the north bank which at first had been well cleared but had no foundation. Herds of heavy cattle had passed along it and had churned up the ground. Before reaching the Tumrach river (Tomya Chu on the Survey map) we left the main path and followed tracks which led to a simple bridge. On the opposite ridge was another hut; the path vanished and reappeared, and yearold camping grounds of nomads were to be seen in every clearing; but not a human being had we met, nor found any traces of fresh spoor. But by one of the last huts we passed (the spot is called Yabuk as we heard later), something moved. Four men and a woman who never ceased giggling, emerged. We greeted each one with a lump of sugar, a rusk and a cigarette. In the hut lay carrying baskets of woven bamboo full of roots, on the floor were spread large leaves on which a heap of yellow dumplings was piled up, and in a trench neatly lined with leaves, was some of the dough from which these dumplings were made. This dough trough seems to have been renewed from time to time, as we noticed three or four older trenches in the floor of the hut. Our knowledge of the language was not sufficient to elicit how and from what these dumplings were made, or what would become of them afterwards. It seems to be a question of food storage supply, in this case, a kind of bread.1

With toil and trouble we were able to find out where one should go. But the path soon came to an end. We partly pushed our way through the deciduous undergrowth which

¹ As I discovered some years later, Hooker explains that the natives in this way prepare an emergency food supply by the fermentation of Cuckoo Pint (Arum maculatum).

INTO THE ZEMU VALLEY

had replaced the former prevailing rhododendron for the last mile or so, and partly clambered along the river bank, and finally had the great satisfaction of reaching open ground. Even though the mists hid the glacier itself from us, yet the nature of the ground indicated that we must be in the proximity of the glacier snout. Our first task was accomplished, and the road to the place we had settled on for our headquarters should present no further difficulties. The detachment could move on up.

The return journey to Yaktang was not without adventure, the sudden fall of night surprised us in the jungle, and only after frequently losing the way were we able to find our hut again and also Thoenes, who had in the meantime arrived there with six porters. He told us that according to instructions, Nursang with all hands would bring up supplies to Yaktang on the 11th.

Instructions to the first detachment for the next few days were on a grand scale:

'Nursang to return to Lachen on the 12th with all hands.

'Thoenes to take charge of Yaktang with one porter, see to food and billets for porters and sahibs, as well as to the proper delivery and storing of baggage.

'Aufschnaiter and Kraus with two porters to make the path from Yaktang practicable. On the 12th Leupold to take over command of the advance party, and with it pitch Camp II near the glacier snout.

'All sahibs not required at Lachen, to reach Yaktang with porters on the 12th and as far as possible proceed to Camp II on the 13th.

'Aufschnaiter, Kraus and Leupold on the 13th to find the best route to Green Lake Plain, blaze the trail, and in the following days to pitch the base camp near Green Lake.

'Anyone unemployed in Camp II and Yaktang, to go up to their

support with additional supplies and camping material.

'One sahib to remain in Camp II to superintend commissariat and housing of the people, and proper delivery and despatch of the baggage.'

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without a hitch towards the base camp. There were half a hundred souls in Yaktang as we passed through it. The curved swords (Kukri) of the Sherpas were playing havoc with the undergrowth, countless fires were burning and filling the narrow, rain-soaked, tree-covered valley with dense clouds of smoke. The porters had formed themselves into groups to share fire and tent, according to race and kindred: Bhutias, Sherpas and men from Darjeeling. Huts covered with foliage, tents and rocky caves, served them as quarters.

The women porters from Læchen rather surprised and embarrassed us by demanding a tent of their own. We were unprepared for this contingency, but we had a tent that was bound to rejoice every woman's heart. It was beautiful, white, lofty, and bore a magnificent coat of arms; we placed it at their disposal, and they pitched it with much rejoicing. We did not tell them that the tent was only usable in absolutely dry weather because it let the water in—how many countless misled 'week-enders' have showered curses on it!—nor did we attempt to enquire after their health next morning, but our conscience pricked us all the same.

Camp II (Poki Camp) presented a different picture. The Europeans were camped by the stream under a huge boulder, while the various tent communities of the porters had settled all round between the rocks. The forest had disappeared completely here, the last conifers, those visions of stateliness, stood on an oblique line (about 12,800 ft.). It was a gloomy spot: the sides of the V-shaped valley despite their dense cover of vegetation, had a nude and bare effect, the scenery was on such a vast scale, its features so gigantic as to numb the senses completely, and make one lose sight of the countless, low, even-spaced, almost black-green bushes and plants. At the end of the valley hung the broad snout of the Zemu glacier

INTO THE ZEMU VALLEY

lightly covered by mists, a mysterious accretion of the remains of the carpetlike vegetation, of ice and débris. A wild torrent gushed out of it, filling the gorge with its roar and with its white breath; no one would stay here longer than was absolutely necessary.

A narrow gorge, dangerous because of stone avalanches, leads up beside the glacier snout;—amid the whistling of falling stones our porters could prove their presence of mind and smartness for the first time.—Then the scenery entirely alters. One enters an open, friendly valley which stretches, wide and level, from the mountain slopes across to the high lateral moraines of the glacier, and then passes out of sight towards the west. The glacier has occupied the whole valley bottom.

Late that day we reached the camping site which Leupold had fixed upon, lying close to a clear mountain tarn, which apparently did not exist in Freshfield's time. The march had considerably fatigued us, due not only to the incessant ups and downs and heavy rucksacks, but also to the altitude (14,000 ft.) to which we were no longer accustomed after staying so long in the hot valleys.

As we were employing a large body of porters, every additional marching day cost us an extra 300 rupees. I decided therefore to fix the base camp here at the end of the third day's march rather than at Green Lake as originally intended. Early the next day I hurried up to Green Lake to arrange particulars for further plans, and to recall Aufschnaiter and Kraus. It was surprising to find the vegetation up here still so thick and plentiful and to see how greatly it differed from that two or three thousand feet below. There were entirely new species, one might say another zone. Here stood lofty, generous spikes of giant rhubarb, the ground was densely covered with species of Alpine rose, here and there, star by star, edelweiss formed a thick carpet. The most remarkable

feature among this multi-form vegetation which still covers these slopes and hollows high up, was a white Composite (Saussurea Gossypina), large as a pineapple, which intruded itself in enchanting patches. In addition, the sun was usually smiling down upon us, although it was in the middle of the rains; only the highest peaks, Siniolchu, Simvu and Kangchenjunga were wrapped in endless cloud.

For the time being this was our objective, and we started to fix ourselves up in comfort. The porters immediately erected a tree trunk on the highest point of the moraine and hung it with long hairs—the Tibetans wear a pigtail—with white veils, and similar objects in order to propitiate the mountain spirits. It was the first indication that they were ready to set aside any religious scruples about our undertaking. Then a wall had to be raised to keep off the troublesome winds from the valley. At first the porters would not lift a finger to try and improve their condition. I have often noticed that simple folk, when placed in a situation similar to ours on the Zemu glacier, show very little understanding of how to cope intelligently with Nature's treacherous onslaughts. One would imagine that the instincts of these children of nature would be keen to scent any threat of danger, and would be swifter and bolder than we town-bred pedants in outwitting the fury of the elements. Now I know that one must actually give the Himalayan native porters instructions as to how to protect themselves. Once their natural indolence is challenged by some external stimulus, they work like Trojans.

So we Europeans stripped off our coats and began rolling boulders, cutting out turf, and dragging up boughs of trees (some deciduous underwood grew quite near). We were all in our element, and had the building of the turf wall more at heart than all the unclaimed peaks of the

INTO THE ZEMU VALLEY

Himalayas. Tobin was amazed when he came out of his tent, but he soon recovered his surprise, buckled to, and set to work carrying boulders. The porters too took fire, and vied with one another as to who could move the largest rock or cut turf and boughs: in short, each man worked furiously till he had no breath left. (We were unwilling to own it, but at 14,300 ft. in latitude 28° one cannot work as one can on the Swabian Bavarian high plateaux. Only by degrees did we attain to our accustomed rate of work.) When Beigel turned up with a large body of porters, things moved as in a business where all work in perfect harmony. In the course of the next few days a small 'town' came to life up there which, with every right, deserves to be placed upon the map. High walls of turf kept the wind away, a dining-room and a larder were built off it. Tenchedar's kitchen leant up against the opposite side, the porters built their own walls, while in addition two sleeping-rooms for the Europeans sprang out of the ground. Between these stood tents of all descriptions: little windproof folding tents, and old tried veterans from the Caucasus and Everest.

On one of the following mornings a strange unrest pervaded the camp, a running and scurrying. 'Siniolchu! Siniolchu!' resounded through the camp and penetrated tent and turf walls. Even the sleepiest crept out of their holes, and hurried up on to the moraine. There, for the first time, stood the wonderful regular apex of Siniolchu facing us, a mountain scene of overpowering beauty. On this same morning, for the first time, the clouds showed us Kangchenjunga itself clearly. We gazed up at it as to something unreal, and slowly and hesitatingly our hands lifted the telescope, that we might with cold calculation pass in review those ridges and faces which we had studied pictorially a thousand times at home, and which might hold our fate in any tiny notch.

While we were settling down comfortably up on the Zemu glacier, Beigel and Thoenes were still busy with the transport. Everything went according to a wellconceived plan; I was particularly keen that everything should go by clockwork, without loss of time or any untoward incident. This would certainly strengthen the confidence of both porters and Europeans in the expedition, a confidence upon which one would be able to rely with certainty in the future.

A message of Beigel's from Camp II gives an insight into the day's work:

Message from Camp II to Camp III, 17th August 1929.

'16th August: 1. Allwein started with Tobin for Camp III. Similarly: 1. Tenchedar with 2 porters for himself and the kitchen. 2. Three porters from Tobin. 3. One porter for Allwein. 4. Two porters with P₃ and W.¹ 5. Allwein has list of contents, also the cash in hand on 16/8.

II. Nursang and Lobsang V reach Camp II with 21 porter loads towards evening. Thoenes is still at Camp I (Yaktang) as

o cases are still lying there.

'16th August, evening: while I am writing, there is great excitement here, we are all ready for action, for the river may flood out Camp II at any moment. It only needs to rise a couple of

feet. Perhaps it will be kind and recede again.

'17th August, morning: 1. Lobsang V starts to-day for Camp I with 9 men and brings up the remaining 9 cases to Camp II, Thoenes accompanies him. I suggested to Lobsang that he should make the journey here and back in one day. He declared it was too much. I promised his men an extra ½ rupee for this day, then he agreed. So all cases are in Camp II by the evening of 17.8.2

II. Nursang set off with 11 cases for Camp III, and his men

return the same day to Camp II. Again & rupee extra.

'18th August. Lobsang and Nursang to proceed to Camp III with all porters, likewise Thoenes, to bring up the remaining baggage. I go to Yaktang.

All packages were distinguished by letters and numbers.

Lobsang came from Lhasa, Beigel from Munich, how they understood one another is not obvious at first sight, but without doubt they did manage to do so.

INTO THE ZEMU VALLEY

'19th August: Nursang and Lobsang with all porters proceed

from Camp III to Yaktang. I go to Lachen.

'1. Either: Naspati should reach Lachen by 19th 8. Presumably his men will want a day's rest, which means on 20th 8. Should they not rest, then I start with them on 20th 8. for Yaktang. Nursang then has a day's rest at Yaktang (provided that there is

enough coolie food to go round).

2. Or: If Naspati's men take a day off, I shall start as early as possible for Yaktang and bring Nursang's party to Lachen, and leave again for Yaktang with them on 21st 8. Should I require more men than Nursang has at his disposal, I must fill up the ranks from Naspati's men. I hope to take in addition 2 or 3 men from Lachen to drive up the sheep for me. News urgently required as to fitness of the route from Camp II to Camp III for driving sheep, and as to possibilities for grazing sheep in Camp III.

'By 21st 8. I hope to have all the baggage brought on by Naspati as well as the 15 sheep from Lachen, and the butter from Lachen,

in Yaktang.

'On 22nd 8. I shall send Naspati's men back, and let Nursang and his porters set off for Camp II. I myself shall remain at Yaktang to keep an eye on the baggage still lying there. On 22nd 8. one member of the expedition must be at Camp II to receive the baggage, and give the porters their rations.

Cheerio to the front line!

Beigel.

The transport was thus in good hands. Perhaps things did not go quite as smoothly as Beigel has sketched out here.—For example, Naspati did not reach Lachen till two days later, the porters were not too amenable, and Beigel had to recruit people from Lachen, and there were protracted negotiations before the supplies were properly delivered at Lachen. But there was no need for any anxiety, and we could look ahead at the tasks that lay before us.

EXPLORATIONS

ON August 18 the actual mountaineering part of our expedition began. We set out with the object of surveying the glaciers, mountains, snow and rocks, in short, the whole lie of the land, to accustom ourselves to the weather conditions, and to test to what extent the high altitude and new surroundings were likely to impair our energies. But our chief aim was to find out how to tackle

Kangchenjunga.

Kangchenjunga is the hub of the whole mountain system of Sikkim and East Nepal. Its five summits lie in a chain, running roughly west by east, which continues in an easterly direction to Simvu, Siniolchu and away to Lamgebo. Towards the west the main chain runs to Jannu. From Peak II a chain runs south-west to Kabru and beyond, called the Singalila Chain, on the furthest edge of which lies Darjeeling. On the ridge that runs north from the Main Peak, stands one summit after another, the Twins, Tent Peak, Pyramid Peak, Langpo Peak, Jonsong Peak, etc. Five great glacier streams flow from its peaks: the Talung glacier in the south-east, the Yalung glacier in the south, the Ramtang glacier in the west, the Kangchenjunga glacier in the north-west and the Zemu glacier in the north-east. The whole history of the mountain goes to show that he is a doughty warrior, and we realized the difficulties of our task so well, that I still considered it more than probable that we would be content for the present to try our powers on less imposing objectives. It gave one food for thought to realize that

EXPLORATIONS

this mountain, which every fine day is admired by thousands, which lies at the gates of crowded Calcutta, and which can be reached from Darjeeling in less than fourteen days, has never been seriously attempted. Yet Mt. Everest which is much further away, has for three years been the objective of large and splendidly equipped expeditions of distinguished mountaineers. The fact that half of the Kangchenjunga massif lies in independent Nepal territory, is only a minor objection. When one collects the experiences of those who have approached the mountain, one is forced to the conviction that it is practically unconquerable, and in its technical difficulties, almost without a rival.

Freshfield was its first visitor, in September and October 1899; he stood on the Zemu and Kangchenjunga glaciers. He saw the spur which high up branches off from the north ridge (our north-east spur), and realized that it offered a possibility of ascent, provided one were able to overcome the terrible precipices in its lowest part. He saw that the north-west side might be practicable in its upper part, but he did not get as far as making an attempt himself, and after circling the mountain in the west and south, returned to Darjeeling. The next men who approached Kangchenjunga came with a set purpose. In 1905 Swiss and English tried to climb it from the south-west under the leadership of Jacot-Guillarmod. The Swiss, Lt. Pache, was the only one to reach a height of approximately 21,320 ft. An avalanche that swept away Pache and three porters compelled the expedition to give up. Dr. Kellas, perhaps the most successful of all Himalayan climbers, reached the Simvu saddle and the Zemu Gap, he inspected the mountain both from the north and from the Kangchenjunga glacier, but it made such a terrifying impression on him, that he attempted nothing (1907, 1909, 1911). It was not till 1920

that the next, Mr. Raeburn, approached from the southwest (Yalung glacier). He explored up to about 20,665 ft., but having no sufficiently qualified porters, could not get further. All this forced one to the conclusion that the mountain must present quite unusual difficulties, since no one has got even within 6,560 ft. of the summit; actually no one has ventured seriously to attempt the climb, although the mountain has been known to climbers for more than two generations.—I might mention here the pioneers Hooker (1848-49), Graham, Wadell and others who already knew Kangchenjunga and its approaches, and published their experiences in print. Among more recent voyages of exploration among its glaciers may be mentioned the following: Piacenza, who explored the Zemu glacier, Tobin who with Raeburn and Crawford was the first to cover the whole of the Talung glacier (1920), and finally Boustead who reached the Zemu Gap from the south (1926). From the pictures and accounts of all these travellers, one can gather that there is no possible way to the summit from the Talung glacier (south-west) —(see illus., Himalayan Journal, Vol. 2). The ascent from the Yalung glacier, 6,560 ft. high, leads over dangerous flanks exposed to avalanches, and it is more than doubtful if there exist up there any ribs or ridges which might afford even a measure of protection against the treacherous snow and ice masses. (See panorama in the Swiss Alpine Club Annual XLI.) The north-west slopes, too, from the Kangchenjunga glacier are, according to Sella's excellent panorama in Freshfield's book, so exposed to ice and snow avalanches, that it is inadvisable to stay on them any length of time. Only the hidden angle opposite the

¹In May, 1929, a young American, called Farmer, tried to climb the mountain from the Yalung glacier all alone. Such a project could only be conceived from complete lack of experience, as was Farmer's case. Despite his undoubted courage he perished. His porters, among them our Lobsang V., only reached Darjeeling after the greatest hardships.

Explorations

Twins' precipices which, though not shown on Sella's panorama, can be seen in a drawing by Prof. Garwood in the *Alpine Journal*, might under certain circumstances conceal a route free of avalanches.¹

But we had spied out three weak spots on the north-east side: the east ridge beginning at the Zemu Gap, the north ridge that descends from the Twins, and that side spur of the north ridge, the north-east spur. The faces in between were impossible; if there was any access to Kangchenjunga from this north-east side, it must be by one of these three ridges.

As we were crossing the Green Lake Plain on the morning of August 18—six men in solar topees with iceaxes under their arm-it looked very much like an advance, as if the infantry were moving up to attack, and however much war may be solemnly denounced, yet my old fighting spirit rejoiced. We split up on the high moraine near Green Lake. One party: Aufschnaiter, Kraus, and Leupold, with the porters Lewa and Namgay, went towards Simvu; Brenner, Tobin and I, with Pasang and two of Tobin's coolies, went on to Kangchenjunga. For three days we stumbled along over the moraines, sleeping in our little tent in the loneliness of that vast desert of rock and ice, while our Pasang—Pasang by the way means Friday—rolled under a boulder like a hedgehog. Every night it snowed and every day the sun shone; we cooked breakfast in bitter cold and white snow, and by noon it was so hot that only with the greatest fatigue could we move in the glacier troughs through the air burning hot from the myriad-fold reflected rays of the sun. As our packs were pretty heavy we only progressed slowly, six to seven miles a day was our limit at that atmospheric

¹The international Himalaya expedition here again could only reach about 20,340 ft. During this attempt, the best porter, Chettan, who had also accompanied us, was killed by an avalanche.

pressure, not counting the numerous detours, ups and

downs, reconnoitring, and even getting lost.

We spent the third night between rock boulders on the moraine in the furthest corner of the Zemu glacier; below us lay our Pasang in a narrow cleft of rock, like a little dog. We awoke in truly magnificent surroundings. The vast north-east precipices of Kangchenjunga rose 11,500 ft. before us, glittering in the first rays of the morning sun; on the other side of the glacier sea towered the huge length and height of Simvu's precipice cold and forbidding, the clear-cut notch of the Zemu Gap allowed a piece of pure blue sky to peep down into this wilderness of ice, and just in front of our camping site, the north-east spur commenced to pile its way up to the summit in steep swoops. Brenner and I examined it for a long time with critical eyes. When we were already well on our way back, Brenner had still not uttered a word; in silence too I understood him: he considered the spur as absolutely impracticable, but did not want to force his opinion on me. What we had seen had completely dashed our hopes.

Frankly impossible? Well, that we should see. The climb up the steep rock and ice precipice to where it impinged on the north-east spur might be managed;—a first-rate ice-climber could get up practically anywhere that was safe from avalanches, and even these could apparently be dodged by sheltering under rock projections—but on the ridge one vertical ice wall was piled upon the other—a dozen ice bosses, more gigantic than on the Scerscen, at an altitude of between 19,700 and 23,000 ft.

We next inspected the north-east spur from the other side, the north, from the glacier which lies between the Twins and Kangchenjunga. (We call it the Twins glacier.) In case it should prove impossible we had cast an eye upon the north ridge which we hoped to reach via the col

EXPLORATIONS

between the Twins and Kangchenjunga.-Lt.-Col. Tobin generously christened this col the 'Munich Gap.'-But these hopes were shattered; from the col a rock wall. 3,280 ft. in height, interspersed with ice and crowned with cornices, falls almost sheer on to the Twins glacier. It might be possible to circumvent its precipices in a foolhardy onslaught, but it would be mad rashness to expose the lives of the porters day after day for weeks to the dangers of this wall. And so, if we were definitely to aim at the main peak, our only possibility was the terrifying northeast spur. I again inspected it minutely from the Twins glacier: ledges, chasms and ribs in the faces of its pinacles raised my hopes. I pondered every detail deliberately and carefully until I felt almost certain that we could get up. By the time I left the Twins glacier I had practically made the decision to try our luck here. And this route is, as we can declare with certainty to-day after the failure of the attack from the north-west, both the safest, and perhaps the only possible way by which the summit of Kangchenjunga may be reached.

The march back to the base camp was not without incident. The second day I got up early to look for a short cut through the centre of the glacier while Brenner and the porters returned by the recognized route over the moraines. We were to meet again at Green Lake at noon. But I had underestimated the Zemu glacier. It is true that from behind the glacier snout to the wall of the east ridge of Kangchenjunga, a stretch of eighteen miles, it hardly rises 2,950 ft. and so can be labelled 'almost level.' Its entire width (2-2½ miles) up to the junction of the Tent Peak glacier and half its width at the foot of Kangchenjunga is still covered with débris, the first crevasses occur above the junction with the Twins glacier; one could consider it perfectly safe. But no one who only knows the Alps and Caucasus, has any conception of the gigantic

extent of this mass of débris. Scree heaps as big as the castle of Nürnberg, tower one behind the other, glacier streams carve out chasms in the ice more than 130 to 170 ft. deep, apparently harmless scree slopes suddenly split up into broad ice walls many feet high. It takes hours to reach a point that appears to be quite near. As it got towards noon the sun blazed down into the glacier troughs with tropical fierceness—it is in the same latitude as the Sahara—and my head became quite giddy. Filling the topee with snow and glacier water only brought temporary relief, and my puggaree could not quite keep the sun's rays from affecting my neck. (It was some weeks before we realized what we had finally to acknowledge, that between 11 a.m. and 2 p.m. in these glacier valleys, our activities were greatly reduced, and could not be increased even by the greatest output of energy. We took comfort in the fact that it is the rule in these latitudes for the European to avoid all greater bodily exertion at noontide.) One o'clock came, 2 o'clock came, the Simvu party joined up with Brenner, together they waited till 4 o'clock. When by that time they had seen no sign of me, they thought that some accident must have happened. Kraus tore down to the base camp and gave the alarm. He did the distance in one hour and five minutes. Allwein as acting commander, collected a rescue party in ten minutes; as the leaders were just moving out, Leupold appeared breathless. Soon after Kraus had rushed off, I was seen through a telescope climbing over the crest of a moraine.

We learned that the Simvu party had negotiated the labyrinth of the Zemu glacier after three hours of toilsome work, and had pitched a camp at 15,745 ft. on a delightful green spot. When the nightly fall of snow had stopped and the mists lifted, they had climbed up along the steep north-east moraine of the Simvugglacier and

Explorations

crossed the glacier, which was fairly free from crevasses. at a height of 16,730 ft. The same day they explored as far as the Simvu saddle, 18,040 ft., and then had to turn back to look for a suitable camping ground, which was found among scree at an altitude of 17,055 ft. The next day there was more fresh snow lying, the mists did not lift the whole day. Kraus and Leupold did some further reconnoitring in the direction of Simvu, negotiating one or two more difficult places close to the saddle, gained ground further south-west on the ridge. But after waiting there for hours, they had to turn back without having got any view. The next day was clear for the first time, the temperature was 11° Celsius below zero. But as there were about four feet of fresh snow, the upper slopes were so dangerous because of avalanches, that the party had to turn back from the ridge which leads to the first peak of Simvu, when at a height of 19,025 ft. They were still too far from Kangchenjunga to be able to discover anything of importance, but a good view was obtained of the Simvu massif, which went to show that its formation is far more complicated than appears from the map. It is not a single peak, but an edge five-eighths of a mile long which curves to the east southeast near the Zemu Gap, and rises to its main summit further back. To reach it, one would have to descend from the Simvu saddle on the other side a good way and cross a badly crevassed glacier. The most north-westerly peak could be climbed from the Zemu glacier without special difficulty if, instead of starting from the Simvu saddle, one crossed the Simvu glacier and followed a tributary glacier which descends from the main mass of the mountain in a south-westerly direction. With comparatively few obstacles one could thus reach a height of 19,680 ft., and then continue along an ice arête, difficult in places, to one of the many Simvu peaks (about 21,980 ft.).

65

Leupold's party had some interesting experiences with the porters as well. As they were about to set foot on the Simvu glacier, Namgay refused to go on. He was obviously scared of the Snow Men who are believed to live high up in the glacier crevasses, planning destruction upon the valley folk. Lewa, the other porter, indignantly piled up Namgay's pack on to his own and stood by the sahibs. But by night hunger had forced Namgay,

after all, to join the others in camp.

Meanwhile, starting from Camp III, Fendt, Allwein and Thoenes had climbed a peak 17,385 ft., north of the camp. From there they had looked down inside the chain which separates the Zemu glacier from the Lhonak valley—we call it the north chain—and had seen a glacier which rises on a snow saddle in the west, and flows eastward for a mile or so through a valley parallel to this chain; it then turns quite sharply to the south, and ends some 660-990 ft. above Green Lake Plain. On August 24, Allwein, Brenner and Fendt with the porters Ketar and Chettan pitched a camp for the night near the snout of this glacier, in order to explore its course and the background of the Tumrachen valley. But the fine weather the next morning changed suddenly for the worse and forced them to alter their plans. They aimed at the nearest peak of the chain which stands where the branch chain from the camp-peak meets the main chain. When they reached it (19,025 ft.) the weather was again opaque, and remained so for the next two days, so that they were forced to return without getting the desired view of the country.

In the meantime the base camp was a scene of great activity during August 24 and 25; an examination of our experiences had shown that our outfit was adequate, that the porters had proved themselves, and that we had so far met the demands which the high altitudes had made

EXPLORATIONS

upon us, in particular as regards our capability for carrying heavy rucksacks, and so we could now venture to attack Kangchenjunga itself. Both the north-east spur and the east ridge were worth attempting, and face to face with this fascinating mountain, we would have deemed it cowardice to first try our strength on its satellites.

We supplied those porters who were to climb with us with clothes, suiting, boots, stockings and woollen vests, with headgear and snow glasses, with climbing irons, axes and rope. Any superfluous or useless men were discharged and we kept only twelve Sherpas and five Bhutias, of whom five altogether had been at Everest. It was not easy to decide whom to discharge, as each man considered it a personal insult to be asked to return home.

The others were all the more joyful, and proceeded to put on every garment—their old lice-covered shirts, their flea-infested clothes, woollen vests, rainproof jackets, hats, caps, their new suits—everything at once—and marched about the camp puffed up with joy and pride.

Lt.-Col. Tobin took leave of us at this time in order to return to Darjeeling via the Yumtso-La (ice pass) and the Tulung-Gompa (Gompa Monastery). For the last time we sat on cases and sacking in our dining-room (5 ft. 10 in. wide, 5 ft. 8 in. long, 4 ft. 4 in. high). What the dinner lacked of outward display, we replaced by infectious enthusiasm. Ever since Pedong, Tobin had been such a charming companion and real comrade that we were loath to part. Our thanks for all the invaluable help which he had given us and was still to give us, accompanied him.

After Beigel had reached headquarters with the last loads, we had a grand parade of outfit and supplies. (The initiated reader will recognize that this is only another term for the familiar tedious stock-taking.) Beigel gave each section a menu for the coming week, and the corres-

ponding commissariat for the road, and then we marched off in three parties up to the foot of Kangchenjunga.

Beigel's party was the second to move out; he writes: 'The weather had turned misty before we reached Green Lake, fog brooded over the débris heaps of the Zemu glacier and prevented us from seeing the trail blazed by the advance party. At Green Lake camp I added a can of petrol to my load, but in spite of the 60 lbs. I walked comparatively easily in the glorious cool air. We ascended fairly high on the left hand moraine crest of the tributary glacier which comes down from the Tent Peak. Above, where the moraines of the Tent Peak glacier meet the moraine system of the Zemu glacier at right angles, there fluttered the red indication flag of the leaders; it showed us an ideal, sheltered camp site surrounded by rock walls 160 ft. high. Tenchedar who felt at home in any kind of camp, soon got a fire going with the low, dry bush-growth that still finds a hold between the rocks on the steep slopes of Sugarloaf up to about 17,700 ft., and then cooked us a splendid meal.

'We woke the next morning after a deep, dreamless sleep. Above the high moraine a lofty snow peak, lit by the morning sun, looked into our tent. In a flash I was on my legs racing to get up the moraine, full of enthusiasm at the lovely weather. I reached the top breathing heavily. The rarefied air was especially noticeable in the morning. I sat down on one of the large boulders and watched the

coming of day in these glorious surroundings.

'Above the broad glacier stream which, partly covered by a thin layer of snow, lay with its terrible crevasses sleeping in the leadenhued dawn, there floated a dense, white mist of clouds. These grew more delicate and transparent as they were wafted higher and higher and finally dissolved into the rosy tints of morning. Glittering white and insubstantial, a huge dazzling wall rose high into the blue ether. One could recognize no clear mountain outline. From its position it must be the massif of Simvu. On the sunny slopes of Sugarloaf the mists were in wild motion, rising and falling. Suddenly they would part to show for a brief moment the extended north ridge and the eery, lofty mass of the summit of the sacred mountain, then the curtains would close again. I was overcome by all this vastness and splendour. As the sun reached us below on the glacier, I saw on a distant moraine heap our cook crouched in an attitude

Explorations

of prayer, repeatedly bowing deeply to the rising sun, while close to me a large raven settled and cawed aloud its harsh morning cry. Then our little settlement sprang to life; packs were strapped on, and soon we were moving along the lateral moraine by Sugarloaf up the glacier towards a huge spur of rock that towered out of a sea of clouds. We kept to the mountain side as long as possible until the slope became steeper, and traces of stone avalanches near the junction of the Twinsglacier forced us on to the débris-covered ice mounds on the left.

Once more the forbidding grey of the precipice of Kangchenjunga's north-east spur loomed up before us and pointed the way, then it became invisible. We had again lost the direction signs left by the advance party, and wearily tramped up and down hill amid the confusion of glacial troughs and hillocks, jumping from boulder to boulder with our heavy packs. The porters rested every half hour, and we too were glad to avail ourselves of every brief halt. When we had reached the level of the rocks of Kangchenjunga, we searched for a long time for any markings, as we were uncertain whether the leaders had gone up the Twins glacier or had followed on up the Zemu glacier. Towards 5 o'clock we pitched a camp on a little grassy spot under the last precipice of the spur. The next morning the sun again shone laughing into our tent. From this lofty spot we had a marvellous panorama. The grey, humpy glacier flowed down the valley in gentle curves. The mountains of the north chain above Camp III now seemed low and insignificant, while Sugarloaf appeared as an elegant snow peak. We could see our route clearly winding over the Zemu glacier which had at last become more level.

'It led us into a mountain basin of vast, overpowering size. The closer we came, the steeper were piled above us the precipices of Simvu, while from the Zemu col rose peak after peak, each more daring in form than the other, mounting in one single glorious swooping ridge to the all-surpassing ice-mailed rock pyramid of Kangchenjunga. An hour later we caught sight of our flag waving some 500 ft. above us among the field of ice and boulders of the glacier which flowed from the furthest basin. Porters climbed down from above and helped us up with our loads. At 10 o'clock we met in the Kangchenjunga base camp, which lay cosily placed among great blocks of primeval rock amid the ice, and were heartily glad to find everything in order and everyone in excellent spirits.'

KANGCHENJUNGA

AMP VI, at the foot of Kangchenjunga was to serve the double purpose of base camp for the attack, and convalescent home for the wearied fighters. The smooth ice of the rearmost glacier floor might have provided a level site for the tents, but would have proved a cold spot exposed to avalanches. Sun-baked rocks make far pleasanter quarters. But amid this mass of débris, piled house high, it was not easy to find a site for our camp. Great caution too was called for. Many of these giant monoliths threatened to collapse at a mere touch, and sometimes the ground disappeared in a sudden yawning cavity.1 Not till dawn came were we far enough advanced to be able to pitch the tents. Whole boulders had to yield, and loads of rocks disappear into the cavities. But our porters showed themselves quite expert floor-layers, and if the floor was not absolutely level, we could only blame the stubborn material at our disposal.

When one had succeeded in twining oneself snake-like around the projecting rocks, sheer fatigue brought healthy sleep. Men of experience as we all were, we soon learned to adapt these rocks to our needs. One would make a beautiful bolster for the feet, another would serve, when required, as a gentle back scratcher, and one boulder became indispensable to me, my arm fitted round it so comfortably. But occasionally it happened that someone got at loggerheads with his boulder. Then the night

¹Once Brenner unexpectedly fell together with a large boulder, which had been stepped on by many for weeks, into the depths, just as he was about to take a photograph from it. The camera was not damaged, however, and Brenner too escaped with bruises on the knee.

Kangchenjunga

resounded with angry growls, something tumbled out of a sleeping sack, the rubber groundsheet was rolled up, neighbours grunted, stones rattled and out of the tent followed by a hearty curse, flew—a rock, not a man.

The first attempt to overcome the 650 ft. high glacier fall above Camp VI succeeded, but the route was so dangerous that we could not risk it a second time. It led past threatening ice pinnacles and astride of house-high ice slabs; on the return we even had to negotiate a 30 ft. wall on the rope. But at any rate the first excursion had given us a glimpse of the upper glacier basin, and we now knew that the way was fairly level up to the foot of the precipice, with which the lower horizontal section of the north-east spur terminates towards the south.

Before the last party reached Camp VI, we had discovered a practicable route up through the ice fall. The best porters had been trained in the use of climbing irons and ice axe. They showed great keenness, and at times were even so daring as to make our hair stand on end. We made every effort to instil caution into them, and so taught them chiefly the art of belaying and using the rope.

Starting out from our new camp (No. VIIa, 1,771 ft. under overhanging rocks), we tried to negotiate the precipice. We climbed over steep snow layers under perpendicular walls in a zig-zag fashion in order to be safe from falling stones and avalanches, for from high above us boulders, cubic yards in extent, came hurtling down, making us keep a sharp look-out. We had nearly reached the ridge when the weather turned so bad that we decided to retreat.

Along this path that we had discovered, a larger party set out next day with materials and provisions for a bivouac, intending to scale the precipice and pitch a further camp on the ridge. The weather was glorious, and what

we had yesterday only glimpsed through the thick mist, to-day lay clear before us. From the steep flank to the lowest depression of the ridge ran countless ice gullies, and between them rose sharp jagged crests covered with snow bosses. The traverse through the crevassed flank which yesterday had appeared still practicable, now, on closer inspection, was obviously impossible. We tried climbing up vertically, but soon the whole party of seven men were standing one above the other on the steep slabs, without any possibility of security, and could get no farther. I climbed up to Allwein who was leading. The precipice became unexpectedly difficult, there was no possible chance of us all getting up, and the last five men were in grave danger from falling stones. Aufschnaiter and I at once led the three porters back, Allwein and Thoenes tried alone and without packs to reach the ridge. But this attempt too failed: steep slabs and treacherous snow bosses rendered further progress impossible.

Actually the following day, Allwein and Thoenes did reach the ridge and the first peak, through a steep ice gully further to the right. But the gully was so difficult as to be impossible for the porters. They were also of the opinion on returning that the ridge was impracticable further on, crowned as it was with snow bosses 30-60 feet high, and dropping on its other side a sheer 350 ft. or so.

The resultant feeling in Camps VI and VII was one of deep depression. I gave instructions to explore the possibility of ascent from the Zemu gap, but could not quite decide to abandon the north-east spur without making a final desperate attempt myself. We moved the camp some 820 ft. higher up the precipice in order to make the last decisive onslaught the next morning. The porters sensed that this was to be the last attempt upon the north-east spur. Before they descended that afternoon to the lower camp, Ketar with a grin of embarrassment pulled out a

Kangchenjunga

white scarf from his breast pocket and handed it to me. It is the token with which the Tibetan Lama wishes his friend good luck in a great undertaking.

On a small heap of scree, completely surrounded by impassable walls of ice and rock, we fixed ourselves up as best we could. For a long time we sat and gazed across at the vast precipices, down to the glacier streams, and to the clouds that hung over the southern valleys. During the night, when a distant flash of lightning lit up the summit pyramid of Kangchenjunga in ghostly fashion, the talk, in strange contrast, turned upon the fairylike beauty of the marble château at Hollebeke. There young volunteers and bearded veterans had lain on costly carpets and marble flooring, waiting, rifle in hand, for another day of fighting, while the enemy's shells played havoc in the back rooms and among the rafters. In the glowing light of a lofty fire-place and to the last sob of a damaged piano, there sprang up there, born of the experiences of the last days, of the visions of home, of presentiments of a hidden destiny, a hallowed emotion such as falls upon a circle of men who have become one to the death.—Hours such as these, I think, can illuminate a whole lifetime.

The weather next day was exceptionally bad. Nevertheless we had to make our final and decisive effort. We had no other choice: we had to try and force a breach in the countless cornice ridges, and ascending slowly, traverse the flank to the ridge.—In whirling snow, the leader, well belayed, set to work. It seemed a very daring beginning to trust oneself to these airy structures perched many feet high upon the steep underlying slabs. However, we found in the course of events that they were quite trustworthy. Icicles as thick as an arm were bedded in the névé and gave it an unexpected stability, even though between ice layers there yawned crevasses many yards deep. The leader hacked away for many quarters of an

hour, but with careful strokes (so as not to risk overexertion at the high altitude). At last, after an hour and a quarter, a path was driven through the first ridge and into the gully the other side, which was comparatively safe for the heavily burdened porters. Others took over the lead, but soon had to knock off work as small avalanches already began to come down from above. We could return comforted. Even though we had not reached the ridge proper to-day, still we had found out the method of making the dreaded flank safe for our porters. We had learned how to deal with these strange, unusual ice structures, and above all discovered that even at these altitudes, it is possible to carry on the most exacting ice work.

At first continuous driving snow forced us to retreat to Camp VI. I found it rather welcome, for during the last two days the veramon I had taken to relieve my toothache had so sapped my energy that I could only drag myself down with difficulty. There my bad tooth was removed. We had no forceps, since we had argued thus: we cannot possibly provide for every operation, and simple cases we can treat with pincers, and thus we can dispense with the extra weight of forceps. Events proved us right: the case was not one of the simplest as the bad tooth hung on a bridge. All the same it was treated with great success, even if not quite painlessly. After the bridge had withstood a lengthy treatment with the crampon file, it was just cut through with the pincers. The tooth was then so loose that it could be drawn without any great difficulty. Two doctors and a veterinary surgeon were at work for two hours; a certified engineer was also present as expert on files and pincers and the principles of leverage.

The weather during the next few days retarded our progress considerably. The party that was to get to work on the north-east spur, had to retreat again to Camp VI because of the deep snow and avalanches. There was thus

Kangchenjunga

an unpremeditated pause before the actual assault. We enjoyed our reunion. For the first time since leaving Darjeeling, and for the last time for who knows how long we were all united. It was like a fair; the tents at night were crowded to overflowing. The porters gossiped, prayed and sang in their tents till far past midnight, from our quarters resounded many a song of home. Camp VI represented for us the ideal of comfort; there resided Tenchedar, our cook, who always had ready, something to eat and drink; there stood roomy tents, there warm rocks cheered the rough existence of us ice-folk;—there was running water—not for washing. Near Camp III some of us had occasionally taken a bath, up here there was no sign of craving it, rather the opposite. The sun and air so attack the skin that one soon becomes like the Tibetans, and shrinks from water externally, but consumes all the more as drink.

When one stepped out of the tent in the early morning, there was Tenchedar sitting or standing on his kitchen rock, performing his morning devotions. It made a deep impression on me to see him, amid this region of ice and frost, gazing across in rapture to the distant summit of holy Kangchenjunga lit by the first rays of the sun. It is a noble and elevating practice, fitting a land whose extent passes our imagination, that lonely wanderers and shepherds in the icy valleys of high Tibet should turn their faces to the dawn-lit summit of the sacred mountain. All eyes meet there, and day by day knit afresh the bond that holds these folk together as a community, yes further, as a cultural body. It is true that Tenchedar was not quite an ordinary man, he was a leader among his compatriots. A man of astonishing religious knowledge, he wrote and spoke English, he led the religious festivals of the porters at the full moon; his orisons were a mixture of piety and gymnastics, which on the latter ground alone

would have aptly served as the basis of a school of physical culture at home. He was not only a good cook, but a conscious, educated representative of the buddhist-lama world-philosophy, and he gave us a splendid impression

of this sociable, happy people.

In the days of forced inactivity in Camp VI, we made final preparations for the decisive assault on Kangchenjunga. We also decided to remain one month longer in India, our original project if we were to regard this expedition as solely one of exploration. Once more everything was reckoned up, weighed, entered and allotted. Leupold sacrificed himself and returned to Camp III, in order to keep our communications with the outer world open. Then we tackled Kangchenjunga with all our determination, one party by the north-east spur, the other, Allwein, Thoenes with two porters, making an assault on Peak 1 from the Zemu gap. Thoenes describes it as follows:

"To-day is Sunday. As I step out of the tent at 5 o'clock, I cannot suppress an exclamation; it is bitterly cold, but not a cloud to be seen in the sky; over Simvu it is slowly getting lighter. Soon there is great activity, rucksacks are packed, the Caucasus tent is struck, piled full of sleeping sacks, supplies, etc., and made up into two bundles for the porters. At 6 a.m. we leave the main camp and cross the upper Zemu glacier over a firm rough surface. The whole valley is still in shadows and the snow bears quite well, only the porters sometimes break through. But the farther we advance in the direction of Simvu, the softer the snow becomes and the more fatiguing our advance. We give our snow-shoes to the porters and let them go on ahead; but only after repeated warnings can we induce them to see that those in the rear tread exactly in the tracks of the leaders; they are used to tramping ahead, each man for himself. A cutting bitter wind blows off the col and we yearn for the sun. We negotiate a small glacier fall to the left, and beyond it reach a sunny snow slope at about 10 o'clock. But alas, it is hardly perceptibly warmer. Yet the glare is so intense that I put on my

KANGCHENJUNGA

large dark snow glasses. The snow is loose and powdery, the wind sweeps upon us like a knife, blowing the fine snow in our faces.

'A short rest; Allwein anxious about his feet pulls great felt shoes over his mountain boots. Then we continue up over the deeply snow-covered glacier. We are roped, now and then a large crevasse is circumvented; the going becomes gradually steeper and steeper, and we look up anxiously. If luck should be against us, both to the left and right as well as straight ahead an avalanche might appear and send us headlong home again bound for the base camp. We discuss whether we would not rather make our retreat voluntarily, but decide all the same to push on. Are we to give up our plan again after a few hours-not even on the ridge, but here where the going is good—and again retreat without having accomplished anything? No. So forward—but with caution! As straight ahead as possible and at long intervals, we worm our way upwards. The snow reaches above our knees, and we had long ago relieved the porters of the leadership. About 4 p.m. we reach the saddle, and after a short deliberation fix upon a site for a camp. We dig a space out of a slope of frozen snow, stamp it down level, and then erect the tent half built into the slope as a protection against the wind. We spread windproof cloak and jacket and rucksack on the floor and on these the sleeping sack, and creep into it as soon as possible. The coolies too fix themselves up in their quarters next door; soon the Primus stove purrs under a large pot filled with snow, the porters sit in front of it and chant their prayers in monotone: in a word, we are quite cosy. First of all a cup of tea with a rusk and jam, then some porridge and stewed fruit. After that we turn round and creep up to the tips of our noses into the common fleece-lined sleeping sack.

'The howling of the wind which rattles our tent walls wakes us next morning. We stretch out our heads and see—nothing. Thick mist, a heavy snowstorm is blowing across the ridge, there must have been a good two foot of fresh snow during the night. Above, below, and all around, about five feet visibility, and everything mantled in white. What ought we to do now? From Alisi's lips comes the answer at last: "Home, lads." And after short deliberation this carried the day. We only had supplies for 3-4 days, no reinforcements could reach us in this weather, and owing to the

danger of avalanches further progress during the next few days would have been tantamount to suicide. So we pack up, rope up the porters, put them between us, and crawl down. Our slope holds, but to left and right from Kangchenjunga and from the precipices of Simvu, powder avalanches thunder down. From the flank of Simvu three pour over the precipice in quick succession. Lower down the mist clears a little, but it still continues to snow. The Nepalese word for avalanche is "Ishum," and "Ishum" is heard from every face. At the bottom, as we are crossing the great Zemu glacier, we hear cries ahead. A few forms emerge from the surrounding whiteness: it was Brenner who had left camp with a few porters to look for us and help us back. By the afternoon we are home again with Tenchedar, and philosophising in our tent over new routes to Kangchenjunga.'

Meanwhile the north-east spur party had already been on the mountain for some time. Camp VII was moved to a position on the precipice, at 19,128 ft. We called it the 'Eagles' Eyrie' as it clung to a narrow rock ledge barely 5 ft. wide, over steep walls, at the foot of a huge perpendicular tower, the so-called 'Winkler' tower. Two days' hard ice work was still necessary before we finally stood high up on the edge of the arête, amid a mountain panorama of overpowering grandeur. Almost sheer beneath us lay the Twins glacier; at an angle of 60° the other face fell towards the Zemu glacier; in front of us towered the 6,560 ft. high north-east spur with its ice pinnacles. In a wide cirque, ice precipices of the Tent Peak, the Twins, Kangchenjunga and Simvu surrounded the two glacier basins.—Unceasingly ice avalanches thundered down the precipices.—Behind us flowed an immeasurable ice-stream far into the misty distance. We hacked and dug for two more days, till at last we had conquered the three towers on the horizontal ridge that from below had appeared so inaccessible, and were standing at the foot of the steep upward swoop.

Kangchenjunga

The task we had set ourselves here proved more difficult every day. It would have been quite possible to scale the flanks and clamber over the dizzy towers, but would have served no purpose. It was not merely a case of overcoming these obstacles, but rather of completing a trail which our porters could at any time take with safety, and which we could descend again in any weather, even if necessary carrying a wounded man. We saw clearly that even with the greatest sacrifice, the two parties of shock troops who were working at the time on the north-east spur could not accomplish it alone. So the order went down to Camp VI: 'All hands to the north-east spur.' The Zemu party was relieved, for we needed every man up here.—There are few people who once they have dismissed a job as hopeless, can find the heart to continue work with all their powers. Allwein and Thoenes could do this: once they got to work on the north-east spur, not a syllable of doubt passed their lips again, rather they risked their lives unshrinkingly more than once to further the plan.

The next day was to lead us at last up the steep swooping slope to the first snow terrace which, from below, I had already designed as our Camp VIII. As it happened, we did not get quite so far. Night was upon us as we stood some 300 ft. lower, faced by vertical towers which could not be tackled at such an advanced hour. Camping material and supplies were dumped on the spot where we stood. The porters, belayed to an ice-axe driven into the ground, watched for a while impotently as we dug a site for the tent out of a cornice on the dizzy arête. Aufschnaiter and Kraus then went down with them to Camp VII, while Beigel and I fixed ourselves up in the little portable tent. The floor was rather eerie, in one spot we had driven the pick through the cornice so that one could look down through the hole on to the Twins glacier. All

the same we slept quite well during the night, but had exercise great caution in the morning not to lose our balance when creeping out of the tent with limbs stiff from the cold of the night.

Scarcely had the sun warmed us up a little than we were already standing by the first tower, hacking away the ice layers from its flank till we could pass it on the left side and stand on a firm névé slope at a comfortable angle of 70°. Two hours later it lay behind us, we had cut a deep zig-zag track through it, winding from one ice boss te another. A hundred feet below us stood the little tent, above us rose new ice pinnacles. A little crevice was enlarged to a chimney, it brought us 13 ft. higher; very steep névé slopes followed, cornices obstructed us.

By this time we had grown accustomed to these ice structures which earlier had given us much food for speculation, and which have no counterpart in the Alps (Prof. Dr. Herzog speaks of similar formations in the high mountains of South America). An entirely new technique had been evolved by which we were able to circumvent them in safety. Apart from their shapes, the most amazing thing was the firmness of these apparently fragile, airy structures. To what influence they owed their unusual consistency cannot be known without more intensive and extensive observation. They resemble the snow-masses that collect at home on every gate-post when snow falls on a windless day. On the north-east spur too, they can only be observed where there is shelter from the wind afforded by Kangchenjunga and the Twins. Higher up where the slopes are exposed to the west wind, they disappear, and are replaced by normal snow and ice slopes. Their unusual firmness may be due to the sudden variation between summer heat and frost. Whatever melts and drips away on the sun-warmed surface, at once freezes on the shady side or in the hollows of the boss. It

Kangchenjunga

noisture which, on contact with the snow structures, attaches itself as ice and so strengthens its solidity.

In the early afternoon we at last stood before the final ice wall which still separated us from the first terrace on this ridge. We now caught sight of the other parties, shock troops 2 and 3, with porters, coming up. We juickly fixed upon a site for the camp for our friends upon the terrace that we had at last reached. Then we turned back as the spur was already in shadow, and in a short time the cold would have been so intense as to make us fear frost-bite. We met the other party, Allwein and Thoenes with the two porters Chettan and Lewa, just as the first man reached the terrace. The next day Allwein and Thoenes attacked the towers above Camp VIII. Beigel went up to Camp VIII in order to bring the two porters down.

It may be of interest here to mention that I felt very weak this day, and so could not go up with the others. I remained lying down in the tent for a while, but about 10 o'clock I began again hacking away at the first tower, slowly and carefully at first, until I had quite naturally recovered my usual condition of physical well-being and efficiency. Each one of us had occasionally to contend with similar complaints, which were usually the immediate results of over-exertion, and which disappeared, even when they took the form of fainting fits, after half a day's rest. Among us Germans there occurred only one case of temporary mountain sickness, among the porters two could not be employed beyond Camp VII for this reason.

At midday we moved with our whole outfit to Camp VIII. In the evening, Aufschnaiter and Kraus came up with porters from Camp VII. They brought a letter from Brenner in Camp VI:

G

20.9.'29.

'Dear Bauer,

'Shebbeare came up to-day and brought valuable stores with him. I am sending up Kipa, and one of Shebbeare's coolies who was very keen to come, with tsampa etc., and letters, especially the permission to enter Nepal, but in particular to tell you that Shebbeare would like to have a talk with you. He cannot come up as he must be back in Yaktang on 25th September.

'I am hoping to see something of the general offensive to-morrow from below.

'Good luck to you all!

Yul.'

'Postscript.

21.9.'29.

'Dear Bauer,

'Just on 9 o'clock Shebbeare's porter who had volunteered, comes back declaring he dare not venture "that" path! Too horrible! Now Kipa is sitting waiting below at the crampon depot. Pemba is starting at once and will, I hope, go up with Kipa.

'Good luck!

YUL.'

I at once hurried down to Camp VI to greet Shebbeare with whom I had much to discuss. Meanwhile Allwein took over the command of the 'shock troops' on the northeast spur. These were now facing the most difficult part, for the possibility of a further advance here had always been doubtful from the start, whereas I had unhesitatingly considered all we had accomplished up to now as practicable. Every minute our party could spare we stood on the rock platform in Camp VI, staring up at the ridge where infinitesimally small specks were clinging in the most incredible places. The porters were filled with enthusiasm when they saw a sahib hanging on up there.

This determined effort to achieve the conquest of Kangchenjunga had led to a close intimacy between ourselves and our porters. A natural line of distinction had arisen amongst them: one body of Sherpas had displayed

KANGCHENJUNGA

especial smartness; they had followed us over the towers. while others had suffered from mountain sickness, and so could only be employed as far as the ridge. Our Bhutias had less fancy for the very steep parts, even when we had got them up to the ridge; on the other hand they were in their element on the Zemu glacier, coming and going safely day after day as carriers between Camps III and IV. (A regular 'service' of this sort is a great advantage. The porters find the going very easy once they know the route, and so make a proper path which forms the best connexion between the two places. With a 50-lb. pack on his back a man needs to keep a sharp look-out for the state of the ground.) The porters had implicit faith in us, and so far everything had worked wonderfully to plan. Each day one of us had dealt out their rations; if these happened to fall short, everyone suffered equally—we Europeans no less; when our route lay over difficult ground, we Europeans were far more concerned for the lives of the porters than we ever would have dreamt of being for our own. When a halt was called up on the ridge, a white man would cut a piece off his sausage and give it to them; in the ice-caves, we divided the plum pudding and passed half on to them. With such splendid fellows as these Bhutias and Sherpas, our consideration was not wasted; they followed us to the last man in desperate places, with a trust and enthusiasm beyond rewarding, which had no thought of payment, but sprang purely from ethical motives, from noble natural instincts. Their reward is the respect that all kindred spirits must feel for them.

Shebbeare had to leave us again, and Brenner, Fendt and I went up with five porters to Camp VIII. In the evening the men came down from above. They had mastered the great tower, the way to Kangchenjunga was now free. But it was a path unique of its kind.

A few rope's lengths beyond the tents of Camp VIII one

stands at the foot of the first perpendicular eighty-five feet high wall. It had to be climbed by the ridge. After about twelve feet of ice work one meets a roofed-in crack filled with powdered snow, which rises to the left at a steep angle and is closed in at the top by a cornice. After the roof and cornice had mostly been hacked down, the ascent proved fairly easy. There followed a small arête, and then a second and more difficult tower, nearly 100 feet high. First came a short, almost perpendicular ice-crack, then a traverse left into a gully, a steep rise to the right to the edge of the arête, then left again into the ice wall, and finally through the end cornice; these are the details of the climb. We called the tower the 'Spiral Staircase.' The 'Twins' Tower' was quite a different affair. It hangs like a gigantic mushroom some eighty feet above the ridge. Only on the side facing the Twins a cornice of wind-blown snow juts out above the overhanging mass. It was uncanny clinging to the treacherous powdered snow above the Twins glacier, which lay almost sheer below us.

The next towers held us up the longest. Allwein writes of these days:

'When we stood on September 23 by tower 4, we were completely nonplussed for a time, the crest seemed vertical or overhanging, both right and left flanks also overhung; but in the left flank a narrow ledge, roofed by huge projecting cornices, led from the wall to a deep recess in the ice. Soon after the ledge ended in insurmountable ice overhangs. There was nothing left but to drive a vertical shaft upwards from this recess. Kraus set to work, he slipped into the gully and began to worm his way into the roof with his ice-axe. This was a terribly tiring and exacting task, one had to work oneself gradually spread eagle fashion into the growing crack in order to reach the roof; the loosened snow fell upon the worker's face and shoulders, and half-frozen water forced its way into his clothes, notwithstanding their thickness. During the first hour of this tunnelling operation I enlarged the ledge, which had at first been quite narrow and difficult, to a comfortable path where the

KANGCHENJUNGA

bulkiest rucksack would not be in the way. We called this ledge the "Hanomag way." The work occupied the whole day, and by 4 p.m. when we returned to camp, the tunnel was still not finished.

'The next day we set to work first of all to improve the path. The end drifts on the first and second towers were broken up sufficiently to provide a comfortable ascent. On the third tower I hacked down great snow masses from the drift, while Thoenes worked away from below, and thus the Twins' tower which had at first seemed so difficult and dangerous became the easiest of all. We then attacked the tunnel again which Beigel finally finished after an hour's work. He came upon a narrow ledge overhung by fresh snow masses and tried to climb through to the left, but had to return. Thoenes followed him, hacking away into a snow cutting up on his right towards the end walls, and I finally succeeded in getting through. At the first attempt one's body was pushed right out into mid air by the overhanging mass, but after I had hacked away a great part of the cornice from above, the climb was quite easy. With that accomplished, another day of toil drew to its close, but I just had time to make two smaller ledges, about sixteen and twenty-six feet high, practicable, when we had to turn back at the foot of the much dreaded 200 foot gap.

'We succeeded in conquering it on September 25. A very dizzy little ridge, threatened on both sides by cornices and scarcely two feet wide, leads to its foot. As the snow was soft, we treated this delicate structure with the greatest respect, and later also warned the porters to tread carefully in our footsteps. The first shelf of the tower, though very fatiguing, is comparatively simple. A steep gully of snow runs upwards, close to and parallel with the smooth face. Through this we gained the top, after first clearing away enough soft snow to make it possible to cut good steps in the hard drift and ice that lay beneath it. We assembled on a small shoulder ridge half-way up the tower to make the final onslaught. I cut a steep zigzag up the south face; while my comrades who were standing below to ensure my safety were frozen stiff, I was almost perspiring. It snowed unceasingly, but I was so engrossed in my work that I had no wish to return. I hacked away with only short rests for 21 hours and actually felt no more fatigue than I should have at similar work in our own mountains, which proved how

well we had accustomed ourselves already to the great altitude (21,320 feet). Beigel had already had to climb a little way up the tower to secure me, and still the top cornice would not budge. To pass this proved pretty difficult in the end, for loose snow had been blown together under it, and I had to work a long time till I could even get a firm enough stand to attack the cornice. At last this obstacle was also overcome and I stood above on the clear arête; the last great bulwark had fallen. There were just a few shelves which we had observed from below, but otherwise everywhere open ground. My companions quickly followed, Beigel climbed on for a rope's length to where a small tower again forced us to make a détour on the north side in deep powdered snow, this was the so-called "Powder Tower." We returned to camp at a faster pace. The weather was causing us increasing anxiety, it snowed nearly every day, and now the whole night as well, bringing fresh snow to the depth of a foot the next morning, when the weather was fine again.

'The next day it was my turn for camp duty while the others went up again to improve still further the path, and finally make it safe for the transport of the porters, which was arranged for the next day. For me there was work in plenty, the whole day I never found time to smoke a cigarette in peace; the tent had to be fixed again, for the snow floor on which it stood had got so uneven and bumpy through long use, that relaying was urgently necessary. The whole tent was dug up and everything moved out, then the floor was levelled and the tent re-erected. Meanwhile we had to be continually replenishing our snow-melting depot on our windproof cloaks. (These black cloaks caused the snow to melt very quickly in the sun, and we arranged them so that the water ran off them into a jar, yielding a bucket of water each day.) The crockery had to be washed and dried, the wet things turned to face the sun, and then it was midday again and time to prepare lunch. Soon it also began to snow again and everything had to be dragged back into the tent. While I was busy with domestic affairs, a large party came up from below, Bauer, Brenner and Fendt with five porters, bringing fresh supplies (which had already got rather scarce during the last few days). Some of these people should actually have gone down again at once, but because of the bad weather and quantity of fresh snow they had arrived later than was expected, and all had -

KANGCHENJUNGA

to spend the night here. As the two tents were not enough for twelve men, we dug out another snow-cave for four men. These snow-caves—an invention of Bauer's—proved their value in the days to come, and it is not too much to say that only thanks to them did we accomplish the return without loss. They offered a warm, wind-sheltered refuge; later we usually preferred them to the tents, and even the porters, who at first had been rather mistrustful, soon grew quite enthusiastic over this new invention. It is true that they cost some trouble to make: three to four hours' work by two men was at least required to complete a hole for about six people; twelve to fifteen cubic yards had to be dug out and carted away. But the toil was well worth while. In the very first night, for example, it was so warm in the ice-cave that we had to shed various garments.'

For two weeks now we had been hacking away from morning till night at the ice of Kangchenjunga. We had often started early in the hope that that day would see us break through. We had already agreed upon signals, and given instructions to the camps further back upon receipt of our signal, to carry out the arrangements made for the assault upon the summit, and to bring up the necessary reinforcements. But we could never give the signal. Fresh obstacles always rose up in our path. Till we had conquered the great precipice it was highly doubtful if we should succeed. But now at last we were so far as to be certain of our goal.

Camp IX, 21,556 feet, was pitched above the 'Powder Tower.' We enlarged the ice-caves in Camps VIII and IX to hold from six to eight men. The entrance was as small as possible, opening out inside like a mole's run. The temperature inside seldom sank to two or three degrees centigrade below zero, while outside there were 10° frost by day and 20° to 30° by night. We exercised our imaginations upon the walls, gracing one with gothic arches, designing another in romantic style like an early mediæval castle, and providing each one with variously shaped niches and ante-rooms.

We met with no further serious obstacles above Camp IX. Two easier towers were soon surmounted, a few snow slab avalanches gave way, but it was always possible to secure the leader so that he could not fall far. Only one slope required great caution from below at the first attempt. But once we had laid a trail over it, the danger was no longer great. We pitched Camp X at 23,033 feet, adding a spacious ice-cave, on quite open ground. Everyone was now feverishly making final preparations. Leupold, who, from Camp III, commanded the section Gangtok to Camp VI, sent on everything available, and made arrangements to move up to the front himself. Beigel, who, as our commissariat chief had the best means of assessing our supplies, went down to Camp VI with Brenner and Fendt to arrange for everything to be brought up that could possibly be required. Brenner and Fendt took over Camps VI and VII. The rest all assembled in Camp X. During the last eight days the weather had broken, no snow-storms, but almost continuous light driving snow with sunshine, every day some hours of clear sky, but never for twenty-four hours at a stretch. Now, according to all previous experience, the monsoon being over, the weather in October should be settled. We wanted to use it to attack the summit.

On October 3, while the last party, Beigel and I with the porters Ketar and Pasang, moved on to Camp X, and while Thoenes finished preparing the ice-cave there, Allwein and Kraus went on up to survey the route for the next day, and carry on the trail. Although the snow was in poor condition—they often sank up to their knees in it—they managed to average about 300 feet upwards in the hour. At about 24,256 feet, they turned back. The result of their survey was that further difficulties need not be expected, but that owing to the condition of the snow, a further camp should be pitched near the

Kangchenjunga

outpost peak which we estimated at about 26,240 feet, and the XIIth and last camp probably at the foot of the final precipices. If they had realized that they had reached our height record, they could easily have improved upon it by several hundred yards. But as it was they returned full of cheerful hope for the next days for which they wanted to preserve their energies. The German altitude record was thus established in a morning stroll.

In Camp X we now had supplies for ten men for five or six days, and sleeping-sacks and tents for two more We all enjoyed the best of health, our appetites were splendid. So far we had accustomed ourselves very well to the altitude and could undergo any physical exertion, only the rate of work was different. We still continued to sleep well up there. At first we had found already in Camp VI that our breathing was often spasmodic (Cheyne Stoke's breathing, the doctors call it), and at night, when the chest was cramped, breath suddenly seemed to fail for a few seconds; but one got gradually more and more used to it, and took measures to prevent it. Coughing was more disturbing, but even I, who suffered most from it, could accustom myself to it, and there were no accompanying attacks of asphyxiation. It did not trouble me when at work or climbing, and in the ice-caves and tents stopped when the air was pure. I regarded it rather as an annoying habit, than as an affliction affecting my general health.

This particular evening an almost festive atmosphere pervaded our ice-shelter. After weeks of toil, success was in our hands, and the thought that the mighty mountain would now be ours almost intoxicated us. Beigel added a special touch to the evening. From the secret depths of his rucksack he pulled out a little surprise for everyone. For weeks, even months, he had been working for this moment. One man received a box of the best cigarettes,

another a packet of tobacco, another sweetmeats, and each man three beautiful fresh unfrozen apples from Darjeeling. The porters, too, received their share. It was Christmas in our cave.

As day dawned on October 4, we saw for the first time ominous black clouds covering the sky; a cold wind was blowing and snow fell lightly. By eight o'clock it was snowing hard. We were forced to alter our plans and prepare for a siege. Kraus and Theones went down with the porters, Lewa and Chettan, to look after our stores in Camp X, and to help Brenner and Fendt with their transport. As it was still snowing heavily by the evening of October 5, with no prospect of improvement, we were forced with heavy hearts to admit the possibility that the conquest of the mountain was now almost out of the question, or could only be successfully achieved by a desperate effort, that meant deliberately sacrificing our usual 'safety-first' tactics.

All communications between the camps had to be broken off. It was each man for himself. The leading party could now no longer count upon the support of a relief party standing by in case of accidents. With careful work it would still take days before anyone could fight their way up to us through the deep snow. of campaign was changed again. As the prospect of reaching the summit was very slight, we felt we should at least like to learn something about the north-west flank. I determined to make use of our permission to return through Nepal. A party under Beigel was to undertake this new task, while we, Allwein and I with the porters, Ketar and Pasang, would try our utmost here. On October 6, our hopes rose anew, the weather had turned unexpectedly fair, for the first time for forty-eight hours it had stopped snowing. Beigel and Aufschnaiter immediately started down. Allwein and I and two porters

KANGCHENJUNGA

moved up with outfit and supplies for four days. We would at least claim the outpost peak. But it was hopeless from the start. In the bad snow we scarcely made 250 feet in height in two hours. The surface was hardened by the wind and held until a man put his whole weight upon it, when he sank up to the middle of his thighs in wet slush. We had to leave our packs behind, and then explored further for about an hour and a half in order to prepare a route for later; meanwhile the unsurpassable view wove an ever stronger spell about us.

We gloried in the great height we had attained. Stretching away into the infinite distance, a portion of Asia lay at our feet, the eye ranged from the far-off mountains of Tibet to Bhutan. The porters too felt the spell, their faces beamed. The precipice and the spur that had cost us so much trouble were now hardly visible. The red, warm, sunny hills of Tibet—who could believe it was such a friendly landscape—seemed nearer to us than all the toils and troubles of the past weeks. The wild mountains had lost their terror. Simvu, Siniolchu, the Twins, lay beneath us, lovely to look on, lovelier still because we had ceased to fear them. The Himalayas which, viewed from the narrow valleys, had seemed a hopeless labyrinth, appeared from here of simple structure. It is not a confusion of mountain ranges towering one behind the other as in the Alps, nor a single sharply defined range as in the Caucasus; here single mountain massives support an endlessly wide, high hilly plateau which, furrowed by watercourses, opens out towards the south in high ridges and gorges and ends in unfathomable valley depths.

We must have approached a height of 23,780 feet before we determined to return to camp. We wished to give the snow another day to settle. As we stood once more in front of our ice-cave we noticed the quite phenomenal atmospheric conditions. A huge bank of

clouds had formed in the south at about 29,500 to 32,800 feet, the sky above Simvu and the Zemu gap had a strange green appearance, and the impression was uncanny and threatening. The same evening bad weather began to set in. By morning the entrance to the cave was snowed up; as the first man worked his way out, he dislodged a fall of snow which piled up again right into the cave. The snow heap increased every quarter of an hour, while we shovelled almost unceasingly to keep the entrance free. By nightfall nearly six feet of snow had come down, and the weather appeared unchanged. A cataclysm of nature had overtaken us and threatened to destroy us.

In the camps lower down the snowfall brought a forced inactivity, every camp was dependent upon itself, all transport was interrupted. Leupold wrote from Camp VI, on October 5:

'It is hopeless here. It has been snowing and raining without stopping for two days... last night alone a foot of fresh snow. It is heart-breaking, and in addition, rheumatism due to the wetice-caves. I hope you have better weather higher up... am expecting the Bhutias back to-day.' (They did not turn up till six days later.) 'I will come up with them with the money for Nepal and all available food for the porters when my eye is better. Unfortunately I shall only arrive in time for demobilization. I do not feel particularly happy in the rôle of Lines of Communication Commandant, but somebody has to do it. If only the sun would shine again. Good luck to you all.'

We never got this letter, as the porters were forced to turn back by the snow-masses; they took thirteen hours alone (instead of three) to get back to Camp III from Green Lake.

Brenner writes a letter to Camp III dated October 7:

'Dear Leupold! We are swimming in snow, less in atta and tsampa. Fendt and I sit in camp without any news from above; yesterday's weather good; up on the ridge four men advanced

At Kangchenjunga

towards the snow peak, over 22,960 feet; to-night fresh falls of snow and so perhaps nearer the end of operations. It is difficult from here to judge the situation higher up; but we consider abandonment a possibility; a certainty if another similar fall of snow comes. We take it you are en route here, in which case the three Bhutias will meet you. They should be carrying food (coolie), if not food, then wood packs. There is enough lard, sugar, oil, salt, tea, but tsampa, atta and rice are finished. I think there is no point in bringing up all the tsampa we ordered, if there is any; we shall not be there long enough to get it all eaten. White man's food nearly finished here, we live off good potatoes and atta, vegetarian diet.

In case further devastating snow forces us out of our cave neck and crop, we should be very glad of the three Bhutias (all that are available) to act as snow-ploughs and goods train.

'Praying that all goes well!

Good luck!'

Kraus and Thoenes were imprisoned in Camp VII. They could not dream of pushing on up, and yet had to stay there to wait for the others and help them as far as they were able, in case of need.

Beigel and Aufschnaiter the evening before had reached the cave in Camp IX, exhausted after a heavy day, and had spent an uncomfortable night there in a welter of wet and frozen snow. They could hardly see their hands before their faces, a howling, icy blast cut through them as they crawled out of the cave on the morning of the 7th, every step they took was blind. Masses of snow broke away noiselessly from the towers and slid with a weird, ever-increasing roar down into the unfathomable depths. The whole day long these two were up to their chests in snow, they leaped down from the towers, they fell, one rucksack was already lost, but they had to make the descent, the whole Nepal undertaking was at stake. They had passed Camp VIII, and stood on the 'horizontal ridge.' But progress there was almost impossible. Night

came on, Beigel slipped and fell with a piece of frozen cornice that broke away, Aufschnaiter could only hold him by jumping down the other side; the last rucksack had to be sacrificed in order for him to get up again, and so without any protection of tent or sleeping-sack, without woollen jerseys and wind-proof jackets, without a morsel of bread, there they both sat under a cornice in a snow-storm, utterly exhausted by these superhuman efforts of the last two days.

The whole situation during this October 7 was really desperate. The worst part was that no one knew how the others were faring. Anxiety over the fate of others was in every case more distressing than the thought of one's own position.

THE others had long ago crept out through the hole of our ice-cave. Allwein had disappeared in the snow, the last of the porters was gingerly trudging out into the grim weather, I was still standing in the cave. The rope that tied me to the others began to tighten; I still hesitated, my resolve to turn back was not yet finally taken. The German war generation is certainly not molly-coddled; it is used to bowing to hard necessity and to seeing its cherished dreams fade away, and yet here it cut me to the very heart to think of turning back. Though common sense told me that an immediate retreat was the only possible course left to us, a stubborn will and an aching heart rebelled in despair. The more sensitive side of my nature held me back; slowly I spread out the German flag upon the floor of the cave, carefully smoothing out the creases, beside it I laid the British flag. When I left the cave, I left these things behind me. I was ready to cry aloud to snow and wind, even, if needs be, to Kangchenjunga itself, the challenge of Götz von Berlichingen. The time for dreams and retrospection was past. A new, heavy task lay before me, to lead my men back. The situation was so desperate—for in such depths of fresh snow one can be lost even in the gentlest hill country—that there was only one way of saving them, a way expressed in one idea, but many words: a clear head, unshakable confidence and fierce joy in the struggle with the elements. We two old warriors, Allwein and I, began this day inwardly burning with lust of battle, though outwardly calm and

collected. We gave no thought to the outcome: that lay in Higher Hands, and He would deal with us as He knew best. We thought only of the struggle, and there we would play the man.

Allwein led, wearing big overshoes to give us broader tracks to follow. His great physique, his endurance and experience qualified him to be the first to force a path through the snow, to clear away the gendarmes, and kick loose any avalanches—technically called 'tratzen' in Munich; a whole rope's length after him, some 130 feet, came Ketar, twenty-six years old, tough, compact, coldblooded, experienced and fearless. He was the obvious man to cover Allwein. After another 130 feet came Pasang, a sturdy, jolly youth of twenty-two, but plainly new to such an experience. After another 130 feet I followed as last on the rope, to safeguard the porters, and act as belay in case the three front men should all slip together. We three rear men wore no overshoes in order to get a better foothold; we also discarded crampons which only collected snow.

We left behind us a trench the height of a man. Allwein, in front, thrust himself with chest, knees and arms into the snow, he trod the snow firm and then stamped fresh snow into his tracks to get a firmer footing still; it took him more than fifty separate movements to do this. The work was terribly slow, we took two hours to do a bare 150 feet up the opposite slope—and yet it did not seem long to me, I was continually assisting the porters, for about every two yards the poor men sank anew up to their middle in Allwein's tracks, and, with their 80-lb. packs, stuck fast. It was hard work pulling them out, packs and all, especially as I was laden too: Allwein and I each carried about 40-lb., under an atmospheric pressure that was about half of what it is with us (about 320 mm.).

Allwein managed to dislodge the first avalanche masses without being carried away too. (I warn anyone, who has not the knack, from trying to dislodge avalanches as described in this book; both the leader and the man who follows him, need a lot of experience to avoid probable disaster.) The big slope had luckily already avalanched, we saved hours by descending easily in the ready-made groove. But then came a really serious avalanche adventure. Allwein and the two porters had disappeared in the blizzard; we were descending a steep part of the ridge, so I had let the porters go on with quite a long stretch of rope between us, remaining myself up above as long as possible. Suddenly out of the mist comes a call, plainly a fall with snow slab avalanche. A spring, and I am safe but breathless in the snow on the crest. The rope grows taut, the tension increasing with uncanny regularity. I put my whole strength into my arms and back, my heart stands still, my breath fails; at last the movement below me stops. Only after a little while am I able to look. The porters are lying motionless on the slope, Allwein is sitting up, but no one has enough breath to utter a sound. The porters still have their packs on, but cannot stand up because of the helpless position in which the avalanche has left them. With shouts of encouragement and by jerks of the rope, I am able to help them to their feet again. Still trembling and muttering prayers they collect themselves, but a good ten minutes go by before we have gathered enough strength to go on.

The ridge then narrowed for a short distance. Allwein and I by turns cleared the snow to one side with our spades. I again went last man past the towers. Once or twice the porters fell, but were held on the rope. Finally I slipped myself, my frozen hands could not grasp my axe, and the porters had obliterated all the steps at the most difficult spot, so that my feet could get no grip. Pasang,

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last but one, quickly and cleverly held me as I fell, and I dangled on the rope, gasping, but soon found my feet and got my rucksack off my shoulders. (At 21,900 feet one must quickly find a foothold or suffocate.) When we did reach Camp IX we had to dig for half an hour to free the entrance to our ice-cave which was buried under six feet of fresh snow. Once in our cave we could feel safe for a night, and fortify ourselves to face the most difficult section of the ridge still to come. The ice-caves were quite invaluable to us now.

The next day began inauspiciously. We could not manage the descent of the great precipice with the porters, who had grown somewhat nervous. We had to bring them back to the cave, and ourselves descend without packs to make possible the traverse of the most difficult towers. Towards evening we returned to our porters in Camp IX. Our anxiety for the rest of the party increased daily. Yesterday we had found no news from them in the cave. To-day we had intermittently a complete view of the whole ridge and the glacier, but saw no signs of life.

The next day our porters had to make up their minds to jettison a part of their belongings. Rugs, cloaks, tents, cooking utensils, primus stoves, drugs, medicines and other things were packed into two large sacks. I flung the sacks far out from the top of the 'Powder Tower.' One caught on a ledge some 4,000 feet below, the other burst open, and only a portion of its contents rolled down on to the Zemu glacier, 5,000 feet further down. Less encumbered we continued the descent. The sky was cloudless. On these towers and pinnacles we seemed to float in air. Mighty glaciers, giant mountains still lay at our feet. It was a unique high-road. From early till late we were at work on the descent, although the drop was only 1,000 feet. In spite of the toil and fatigue, we would have revelled in our acrobatic descent of this wonderful ridge,

if we had not been really worried over the fate of our companions, for to-day again there was no sign of life on the ridge or on the Zemu glacier. Only a mysterious trail which led from the camp to the ridge and ended there. Could there have been an accident?

That evening we found a message from Thoenes in the cave of Camp VIII:

'6 October. 8 a.m.

'Owing to fresh fall of snow, transport of supplies up along the ridge impracticable. (Trail up to the waist.) Counting on your also retreating. All Lewa's fingertips frozen (2°), quite useless. Returning to the "Eagles' Eyrie," will wait there for signals. Lex. Karli.'

This meant that all were still fit on the morning of the 6th. This was the evening of the 10th. What had happened in between? Beigel and Aufschnaiter? At last we reached the 'Eagles' Eyrie' the next evening, and learned with joy that all the ridge party were at least alive. We listened to their experiences, and heard how Aufschnaiter and Beigel, after a terrible night high up on the ridge, had with their last efforts been able to force their way down to the 'Eagles' Eyrie' on October 8. Aufschnaiter was now lying in the tent with snow blindness, and Beigel was badly frost-bitten. Nearly all his toes and parts of the balls of his feet were frozen purple and black. Although Krauss, Thoenes and the porters had been rubbing them for three days, they could not save them.

On October 12 we set off early towards Camp VI. Beigel refused to be carried, he slipped his swollen feet into his large overshoes and limped along behind in our tracks; at the steep parts we lowered him down. From the upper edge of the sérac we saw footprints below on the Zemu glacier. Brenner, Fendt and the porters had explored up to the foot of the ice-fall. They had not ventured to tackle the fall itself from below on account of

danger from avalanches. They waited there for us, and for a few hours relieved us of our packs which we had been dragging with us for five days.

There was not much news from Camp VI. They had waited, and waited, and still waited; Brenner had long ago caught his last flea—'Henry the 31st, younger branch,' he called it—while Fendt had tearfully buried his last louse, 'Mariandl.' (Even the porters had gradually got rid of all vermin. Our mode of life did not agree with the creatures.) Kraus and Thoenes, who had been searching at the foot of the precipice for the things we had jettisoned, and had recovered the more valuable objects, turned up soon after dark had set in; we assembled in the big tent and celebrated a happy reunion with Brenner and Fendt.

I only mention the feast we ate next day, because it found a strange repercussion in the Press. Tenchedar concocted it out of frozen potatoes and beans, a tin of bully beef and lots of ghee, provided for the porters. We had so much of this latter commodity that Lewa was able to drink 1½ litres of it unquestioned. Our appetites were no smaller than Lewa's, but our stomachs not so strong. The night after the feast was restless, and in the Press from Bombay to Buxtehude the reports ran: 'The Himalaya expedition has discovered the legendary Snow Men. They crept round the camp at night and conversed with one another in unintelligible gobbling sounds, while mysterious traces of them were found next morning.'

It cannot be proved who or what particular event gave birth to this report. If any actual nocturnal gobbling sounds are responsible, then that particular night is clearly indicated. It only remains as a duty to report that we never saw any signs of the Snow Men, nor did the porters ever mention the subject. It is purely a question of Tibetan mythology: the Tibetans believe that the snows are

inhabited by another race of (super-) men, who are hostile to mortals, destroying them by avalanche and falling stones and dragging them down into the depths. The news of the discovery of the Snow Men had, as a matter of fact, already made the round of the Press during the Everest expedition.

Any further attempt upon the summit was now out of the question. It would have taken over a week to make the route to Camp X passable; the cold would have hindered us considerably, seeing that ever since the end of September we had spent a good half-hour every evening rubbing each other's half-frozen feet warm again; besides, communications were quite cut off. A twelve mile wide wall of snow separated us from Camp III.

Although we had planned to rest next day, we devoted it to 'stock-taking.' We had far more baggage here than we could manage with the few porters, and so had to sort out the less valuable. But what one man discarded, another packed up; we were not really in a position magnanimously to donate half our equipment to Kangchenjunga. Whenever we Europeans after much shillyshallying threw something away, the porters quickly seized upon it. Every candle, every box of matches that was ownerless vanished into their private packs. The porters had behaved so magnificently that I gladly allowed them this pleasure, but at the same time it was shortsighted of me to give them quite a free hand, our own loads went short, our rucksacks became heavier, and the men overstrained themselves, for 120-lb. is excessive, even if 100-lb. of this is 'coolies' own load.

So each man carried his full load—we 50 to 60-lb., the coolies about twice that amount—when we finally left Camp VI. The Europeans tracked ahead, well up to their knees, the porters followed, and finally Beigel supported on two tent poles suffering grimly in silence. Luckily,

on the afternoon of October 14, we ran into Nursang and seven porters who had come up from below. After vainly trying for several days to come up through the snow, they turned back through shortage of food, and had only just reached us at the second attempt. Beigel suffered more every day, but as we now had more porters he let himself be carried. Each day was lovelier than the last. The country at this altitude, about 16,000 feet, put on its fairest dress. On the sunlit slopes there was spring and autumn together; the plants and bushes shone with a wonderful red-brown, between them young flowers sought the daylight. The sunny disposition of our porters was reflected in their red, laughing faces. Their life's philosophy culminates in a 'Nitchewo.' But not the gloomy renunciation of the Russian, who accepts everything because he has endured so much, and because of his conviction of the instability of all that is beautiful and desirable. Our porter's attitude is rather a cheerful, laughing 'it doesn't matter, it doesn't matter at all, Sahib. In a day, in a few hours, perhaps even in half an hour the sun will shine again, and everything will be all right.' For whole days they had burrowed through snow the height of a man, and lain at night in the open in 200-30° of frost, but their hearts cherished the sunlight, and when it shone again, they rejoiced like children.

For four heavenly days we gloried in the sunshine, in life itself, in every flower, and above all in the unbreakable bond that made us comrades. When men have lived for so many months dependent upon each other, with frequent shortage of food, with hard beds, narrow sleeping-sacks and bony sleeping partners, with wet clothes, bitter winds, deep snow, with weary trudge and heavy packs, and over all a fanatically exacting leader, it can so easily happen that a dividing barrier of a thousand petty irritations may arise between the best of

friends. But in our case there was nothing of the sort. I rejoiced every time I saw one of their eight heads; and however pleasant the thought of our homecoming, one reluctantly weighed against it the fact that with it would end the struggle for life and death we had faced together as comrades.

Still tramping along through deep, glistening snow, we approached our Base Camp, No. III, four days after leaving Camp IV. A messenger had relieved Leupold of the torturing anxiety he had suffered for three weeks. He had already hurried on to send up porters from Lachen to our assistance, to prepare for the further transport of Beigel and to settle ahead all business transactions till we reached Darjeeling.

On October 18 we hauled down the German and British flags which had flown for months over our turf huts, and bade farewell to our little autumn-tinted moraine valley. The packs had increased again considerably, and we Europeans too carried heavy rucksacks, one of which weighed as much as 92-lb. That afternoon the weather broke; by evening, as we took up our quarters in the old shepherd's hut in Yabuk, it rained and then snowed, and by morning our porters outside in their tents were buried deep in snow.

We were all depressed, for yesterday the loads had been so heavy that porters and sahibs had overtired themselves, and to-day, being wet, the loads would be heavier still. In addition there were a couple of feet of fresh snow. It required a lot of encouragement and good example to rouse the camp to life. Suddenly there appeared eight porters from Lachen, six men and two women, whom Leupold had sent us; our men cheered, grateful to us for saving them from having to carry the terrible loads any more. It continued snowing the whole day in thick, wet flakes. The countryside was quite

changed, we could no longer find our path, the close overhanging underwood, heavy with snow, formed everywhere an impenetrable entanglement. Avalanches crept noiselessly through the forest and dammed up the stream, porters slipped down the frozen grass slopes into the ravine. (The men from Lachen wore the warm, pretty Tibetan felt shoes which are useless over steep ground; the underneath part consists of a strip of Yak leather without heel or edge, and easily slips.) It is almost a miracle that no one was lost in that way, but our porters, like ourselves, understood how to give the avalanches precedence. Beigel had to walk again, it was out of the question to carry him.

We had to halt at Yaktang, as I had noticed that one porter was missing and had sent back Ketar and Lewa to look for him. They shrugged their shoulders, and smiled, for the missing man was Chesang, the unlucky; he waged an endless war with his pack, whenever one looked at him he was tugging at it and shaking his head, and he was always last home. If there was a wrong path, he was sure to take it, and so was always a laughing-stock; besides, he was a Bhutia and the others were Sherpas. But they searched for him conscientiously and brought him back at night, even carrying part of his load. Chesang had been carried down into the stream by an avalanche, and was unable to get out by himself, but he had stuck to his pack like the good and trustworthy fellow he was. The next day it was still snowing. Our first steps that morning took us well over our ankles in melted snow; although snowed over, the swamps were as big as ever, we often tramped along up to the knees in streams and pools. With grim determination we plunged through the impenetrable bamboo thickets. Night fell; in the woods lay packs which the porters had had to discard; the snow had stopped, the water rose, and the sky rained unceasingly. Brenner and I went last with Beigel, to help him as

best we could; towards the end the pools became sodeep, that we nearly had to swim for it, at one time the water reached my navel.

At last we saw lights swinging towards us, people from Lachen hurried to meet us through the water with large oil lanterns. The meeting was not without its humorous side. We were standing up to the knees in a roaring flood. while round us circled six smart lads, full of zeal, and trying to make something clear. We soon gathered this much, that there was no pony for Beigel as we had ordered. When we at last emerged upon the mule track, they made us understand that they themselves would supply the pony. We did not quite like this as it was against our ideas of self-respect that anyone should ride upon his servants' backs. But here it seemed to be quite usual. They had brought a pack-girth upon which Beigel had to sit, one of them then slipped under it, raised it with his forehead till Beigel was perched upon his back, the others supported him and off they trotted. After a few yards their bare feet sank in the mud of a landslide, a bare hundred yards further on the path had again been obliterated by a mud avalanche. It was like this all the way; a horse would never have got through, so we had to be grateful to the Lachenese for their foresight.

Suddenly high up on the slopes of the Lamgebo, where the difference in altitude between valley and summit is 11,000 feet, we heard explosions and crashes; sounds of such elemental, overwhelming force I had never heard before, sounds that increased, grew louder. The Lachenese stood still upon a projecting rock and listened, trembling with excitement. Now I realize it, a mud-shoot is coming. The whole slope trembles, but the torrent rolls past. For many minutes we can hear the mud hissing, and the rocks crashing down into the river gorge. We then explore and find the river still flowing. At last it grew

almost quiet, the first man ventured across, the rest followed quickly. The hillsides now became alive, and mud-shoots rolled unceasingly with shattering crashes down the trembling slopes. Often we stood crouched down upon a ledge ready to jump, and, scarcely waiting till the fierce, black mud-torrent had hurtled down into the depths, we fled across its ravaged track. In a solid phalanx the brown bare-footed coolies charged down into the flowing mud and rocky debris, and when the weary porter threatened to collapse under Beigel's heavy weight, the others pushed and pulled him from left and right, from behind and in front, encouraging him to feverish activity with loud cries.

It was nearly midnight when the last man reached Lachen. Exhausted, dead beat, and yet with fighting instincts roused by Nature's fierce revolt, with unkempt beards, wet, covered with mud from head to foot, we marched with heavy tread into the brilliantly lit diningroom of Lachen bungalow, and—stood in another world. A white table, chairs, a cosy lamp—a gentleman shakes hands with us; 'Oh, welcome, will you have tea or whisky?' Mr. Patterson, Collector of Gauhati in Assam, received us as European representative in distant Lachen. I was still too wedded to the idea of hardship and deprivation to be able to switch over at once to civilization and enjoyment. I first took some sips of tea, and only for my second drink did I venture on whisky, and I felt I had earned it. Circumstances called for a toast, as everyone, even the luckless Chesang, had reached Lachen safe and sound.

There is a lot more I could tell: of poor Beigel's painful journey, of our splendid reception in Gangtok, Darjeeling and Calcutta, and of our voyage across India and over the sea. But I must leave that. Our Odyssey really ended at Lachen. One can only view it in retrospect, and then it seems just a simple pleasure trip after all.

At least it was a pleasure to stand shoulder to shoulder with such men; it was incomparably beautiful at the 'Eagles' Eyrie' and on the ridge terraces, it was grand and uplifting to be near to the earth's zenith, and there was a fierce joy in outwitting the threatening towers, defying the snow-storms, and snapping one's fingers at the mudshoots; and if all this had not been a real delight to us, then we could never have brought the adventure to a happy ending.

THE SECOND ATTEMPT

THE GOAL

N October 7 and 8, 1929, at a height of some 23,000 feet, Kangchenjunga overwhelmed us in huge masses of fresh snow, and forced us to retire before his raging storms. At the first backward step I turned in grim resentment, seeking some defiant challenge to hurl him through the raging of the elements.

But my angry words died away before I could give them utterance. For this one single moment the actual peak looked down upon me through the whirling snowdrifts. Bright and clear it towered high above the storm-clouds. Vast distances, the plains of India, the immeasurable labyrinth of the Himalayas, the high plateaux of Tibet, all seemed reflected in its mysterious flanks.

Like a symbol of the highest, inviolable by the elements, by any earthly contact, the mountain reigned in majestic peace over endless spaces—so grand, so noble, that no human emotion could endure before him, except a

worshipful longing and an exultant surrender.

The consciousness of the hard struggle which had brought us so far, let me stand there unashamed. For one brief moment of thought I was quite near to him, his equal, like him supreme. Then I took my leave reverently, with such worship as our porters used to pay the God of Kangchenjunga. There for me was the embodiment of an undefiled grandeur and purity, the highest goal for which we mortals strive, and which the noblest of us may only approach for brief moments.

Such an experience enabled me lightly, almost cheerfully, to endure snow, cold, wet, storms and dangers.

We fought through with unconquerable equanimity, conscious that we had approached the highest. Even though our way now led downwards through one of life's vales, we had been in touch with the purest and greatest; come what might, we were descending in obedience to Fate's decree, but only that we might struggle again to reach the Heights.

The untrodden zenith of the world is the final, and perhaps the greatest, geographical problem. Mt. Everest became a national goal for the whole British Empire, and

its conquest the heart's desire of every Briton.

Pioneers of Empire, like Sir Francis Younghusband, marched like heralds and standard-bearers before the serried ranks of English Everest fighters.¹

All that the country can offer is devoted to this one goal. Influential journalists, politicians and alpine climbers have all had either extensive personal experience of the Himalayas, or at least reliable first-hand information, and so can rightly estimate the significance as well as the difficulties of the undertaking. A co-operation of all resources is, they claim, the greatest essential.

I conceived that having once forced a breach, German climbers should concentrate all their efforts upon Kangchenjunga, which, in more respects than one, is the world's

¹ We were not concerned in getting there before the English. In the Great War Germans and English fought often enough for possession of a trench, a farm, or a few trees, and to compete to-day in the realm of sport may be quite in order. But in the struggle to conquer the world's highest peaks, man is face to face with such overwhelming natural forces, that all nations should be allies. In those altitudes it would be presumptuous to attempt rivalry or a race for priority. Whatever our pride and reliance in our own national efficiency may be, respect is due to other nations who are striving towards the same goal. Only those who can visualize the camaraderie and self-denial that such a goal demands—be it in the matter of sleeping-sack and tent or in things beyond a national pride—and can act up to them, can achieve that sanity of outlook which must form the basis of every expedition to Everest, Kangchenjunga or K2. The egoist who thinks only of his own reputation, of the breaking of a record or of claiming a personal success, can never expect to cope with the difficulties and disappointments of such a struggle.

THE GOAL

most important mountain. But even if public opinion was as yet not so far advanced, we who made the adventure in 1929 and 1931 felt it to be our higher duty to move in the vanguard, and to make the struggle for

Kangchenjunga our personal obligation.

In this we were not unsupported: the Academic Alpine Society of Munich, the 'Highland' Section, the 'Oberland' Section, and many individuals were ranged on our side. The Foreign Office did all it could to smoothe our path. We received moral and financial support from the firm of Knorr and Hirth in Munich, and from the London Times. Finally the German and Austrian Alpine Society agreed to contribute a considerable sum. The enthusiasm of those who had accompanied me in 1929 was unabated, five of them (in some cases only with difficulty) were able to free themselves of their professional obligations: Dr. Allwein, physician; Peter Aufschnaiter, agriculturalist; Julius Brenner, chemist; Wilhelm Fendt and Yoachim Leupold, political economists. To these were added four mountaineers of a younger vintage, whom we had known for years. Dr. Hans Hartmann from Berlin; Hans Pircher from Innsbruck; Hermann Schaller from Munich; and Dr. Karl Wien from Berlin. Our great experiences during the last expedition, the memory of our student days and many a climb together, had from the very first so welded us in friendship and camaraderie, that nothing could divide us. All the experience of Himalayan and polar expeditions had gone to perfect our equipment. We had not much money, but enough to tide over any fluctuations in exchange that might affect us. So we started out, an imposing, experienced and well-equipped force.

A big climbing expedition in the Himalayas requires careful political and diplomatic preparation. From the first I made it a strict rule only to act with the consent of our Foreign Office and the British authorities, and naturally to abstain from doing anything that might be considered undesirable in these quarters.

THE JOURNEY TO THE HIMALAYAS

↑T Genoa we embarked again, on the North German Lloyd, Saarbrücken. For the third time lands and seas passed by. Everything seemed familiar, and yet pregnant with newer and profounder secrets than ever before. At Port Said we did not this time quite succumb to the charm of the gay and novel confusion around us, we rather sought to probe the real life of this strange town, where the world's commerce and the desert meet, where Europe, Asia, Africa, the Egyptian struggle for independence and the powerful demands of western suzerainty all impinge. The clear-cut hills round the Gulf of Suez with their gay colouring, conjured up an enticing image of the wild desert. We stored up the heat of the Red Sea as provision against the future. In joyous amazement we took our fill of the measureless light which the sun pours out over the clear, glittering ocean.

Between these bright days on the silver mirror of the Red Sea and the Gulf of Aden, yawned a stygian night as we anchored at Djibuti; a pitch-black sea and a purple sky. Life that had seemed extinct in the heat of the day now burned anew in the darkness. Every corner and street teemed with life. The natives, of a dark brown colour, celebrated their feast days without paying much attention to us strangers. Their mud and straw huts had grown out of this soil. We felt rock underfoot, and scented the nearlying hills of Abyssinia in the fresh night air.

Beyond Socotra the well-known south-west monsoon blew about our ears; the grim, grey-green rollers of the

THE JOURNEY TO THE HIMALAYAS

Indian Ocean took our ship upon their backs, and once again shook us up thoroughly before we landed in Ceylon.

Then came India, vast, illimitable. South Indian countryside, now fertile and luxuriant, now arid as a desert: hot railway stations teeming with dark-skinned Tamils. We penetrated further into the cool temple precincts of Madura. The exuberant extravagances of outline went beyond our present limited conceptions, but they made a deep impression, and filled us with respect for the master sculptors of old.

A garden-temple, built on a sacred lake near Madura, was a revelation to us of the life and spirit of India. Water is the mainspring of Indian existence, without it the land is a desert, with it a flourishing garden. On the temple islet of Tepa Kalam at Vandiyur, we saw the vast fecundity of India's soil and climate embodied by the clear brain of a great architect, in a structure which represents in spotless

purity the fruitful union of earth and water.

In Central India, on the plateaux of the Deccan, stretch endless barren forests and savannas, the home of the tiger. At a depth of only a few feet, streams and ditches lay bare the rocky strata that form the high ground. In the swamp lands by the coast, among palms and in the midst of fruitful fields, lie red, smooth sun-roasted outcrops of this archaic formation, like huge sleeping elephants. Tremendous rivers, larger than ours at home, flow into the Bay of Bengal. For the present, Northern India remained outside our ken; although our minds turned to Delhi, Agra and Benares, they would have to wait till we returned; for our immediate goal was the Himalayas—and Kangchenjunga.

In Calcutta we were again given a great welcome at the German Consulate by the German colony and by friends of the Himalayan Club; advice and hospitality were showered upon us. And so at last we reached

Darjeeling, the actual starting point of the expedition. In Ceylon the monsoon had set in simultaneously with our arrival. Later we managed to keep ahead of it. In Calcutta the hot weather was at its height as is usual just before the monsoon breaks. As we approached the Himalayas we saw Kangchenjunga clearly, far away over the plains of Bengal where millions of Hindus, languishing in the terrific heat of sodden paddy-fields, lift their eyes to it as to some divine promise.

Two beautiful days in Darjeeling followed. Kangchenjunga towered in indescribable majesty high above the teeming bazaar of the Bhutias, high over parks and palaces. On such a day the whole town lies under his spell. The Buddhists pilgrimage to the highest point of the town, and pray to him face to face. The white men look at him with wonder, and there is not a soul that does not realize anew the marvel of creation. It is an incredible, unique experience. One stands with both feet planted amid a flourishing, swarming city, the summer residency of Bengal. And before one towers Kangchenjunga, blotting out the whole northern horizon. There are the highest peaks of the globe, the last bulwark of nature. The distant, unapproachable mountain raises his vast form amid the busy market-places of men. Thousands, tens of thousands of mountaineers, pundits, pioneers of humanity have for three generations been able to study him from here as no other peak has been sought after and studied before. And yet it is still doubtful to-day whether human endeavour can ever reach his glittering summit. His aspect can make man bow the knee before the glory of creation, but it can raise us up to the knowledge that it is still man who ever seeks the highest goal.

THE DEPARTURE FROM DARJEELING

UR old porters had answered not only our call, but the call of the mountain: for weeks they had hung about the streets of Darjeeling, waiting for us, inspired by its dazzling form. Led by Tenchedar, the cook, and Nursang, the sirdar, they greeted us with joy; we too were heartily glad to see the fine men, our trusty companions of 1929, once more. To have faced danger and death together is after all an unbreakable bond of the truest human fellowship. Three of the old guard were dead, Ketar, the strong, and young Sonam had died of fever, Chettan, the most efficient of all, killed by an avalanche. Lewa and Nima were at Kamet with Smythe. The rest were all present.

The Sherpas had brought a crowd of youngsters with them from their distant villages. The Bhutias had come from a great distance. Men from Walung, Khams and Amdo had joined up with the Bhutias from the province of Lhasa and from Sikkim. All told, there were over four hundred men camped round our bungalow; in their eagerness to come with us they were constantly pushing their way inside, to the consternation of our housekeeper, who quite reasonably feared the vermin they might bring in with them. Actually the position was not so rosy as it appeared, for the Sherpas under their head porter stood aside. They had had an unpleasant experience with Dyhrenfurth's expedition in 1930. They alleged that in the matter of payment they had come off worse than the Bhutias, and were now bringing a case for repayment of several thousand rupees against Lt.-Col. Tobin, who had

paid off the porters on that occasion to oblige Dyhrenfurth. They now resolutely demanded that I should employ exclusively Sherpas, as otherwise they would not come. Lt.-Col. Tobin, the representative of the Himalayan Club in Darjeeling, who had been a good friend to us in 1929, had again, with his never-failing readiness to help, collected the Bhutia porters, so that we actually had enough men at our disposal; but I could not dispense with such fine climbers as the Sherpas. Luckily the good impression we had left behind us in 1929 at last overcame the ill feelings which the fatal lawsuit had aroused in their minds, and in a day and a half I succeeded in enlisting them too, and so uniting the various races. Our former patron, S. W. Laden La, whose authority both as head of the Darjeeling police and as descendant of an old Sikkim-Bhutia family, carried much weight and popularity in the district, used his influence on our behalf, and all was well again.

Mr. E. O. Shebbeare, Chief Conservator of Forests for Bengal, who had supervised the transport for the last Everest expedition and also undertaken the same for the fourth attempt on Everest, had only waited for our arrival, and then at once left Darjeeling as advanced guard of our expedition. He sacrificed his whole year's furlough to our undertaking and led the first body of porters a fourteen days' march to the Zemu glacier. By the time we arrived his seventy-six cases were already en route, containing such provisions as we had had to procure locally. Tobin and Shebbeare had had them carefully soldered into tins or sewn up in waterproof sacking.

Meanwhile the two detachments we had left in Colombo arrived with our baggage. Our cases and bales—nearly one hundred and sixty in number—had journeyed from ocean liner to lighters, from these to warehouses, and back again to ocean liner. They had been

THE DEPARTURE FROM DARJEELING

carried high on the backs of coolies, and jogged along in ancient ox-carts through the streets of Calcutta. Finally they had been forwarded by motor-car, train and funicular. All this meant occasional friction and incessant noise. Usually the transport suggested a rowdy bank holiday; one just waited patiently with oriental phlegm for the bustle and flurry to calm down.

But when matters were urgent, the work became frantic. When the Stolzenfels arrived at Calcutta, there were only a few hours left before the departure of the train; we had to catch this or, with Sunday intervening, two whole days would have been lost to the expedition, representing a loss of some thousand rupees. So the Europeans set to like madmen, led by Gourlay, representative of the Himalayan Club in Calcutta, the first officer of the Stolzenfels, and Fendt and Pircher, and with relentless energy swept away all obstacles. The coolies became infected, and, after a little blustering, they worked with heroic devotion in the blazing heat till our cases and bales had been salved from the farthest corners of the lowest hold, and brought to land. The same game was repeated at the station. The white men fell to work, egged on the coolies, officials closed an eye and worked feverishly—and this last consignment actually left Calcutta punctually.1

By the time the first baggage consignment reached the mountains, everything there was in trim. I met them at Siliguri, still in the plains; from here the baggage was transported first by narrow-gauge railway into the

¹ Europeans do not carry their own luggage when on a trip through India; it would excite too much attention. But a traveller can always, if necessary, lend a hand and so encourage the native porters. There is no objection to that. One can quite understand that a man in a position of authority finds it derogatory to carry his own coal from the street to his cellar. But when this apparent dignity has become so natural that he cannot bring himself to do anything, then he must lose prestige. One can assert that the English would never have won or held India, if they had always stood aloof upon their dignity.

Teesta valley, and then by funicular to Kalimpong. Meanwhile the detachment of porters we had collected in Darjeeling came up as well, and the next day we could move on.

On the return journey from Kalimpong to Darjeeling on Tune 26 I was overtaken by the monsoon which had at last broken here too. Masses of water suddenly fell like a cloudburst on the parched ground. Torrents poured from the precipices of the Teesta gorge, bringing with them trees and rocks. We frequently had to clear the road for the car. We managed to get through here, but farther on, in the plain, where we had to ford the Shevoke, we could get no further. I sat half the night in the feverridden jungle of Terai, surrounded by wild beasts, watching the swollen river as it thundered mysteriously through the night. Spray rose up, clouds pressed down to the ground, tearing rain dissolved on leaves and branches. Lightning played all round me. The earth seemed ready to turn to water. Finally I deserted the car, shouldered my pack and climbed along the railway bridge over the river. The next morning I reached Darjeeling, having luckily found another car. We had lunch with the Governor of Bengal; it was still raining and I was told that the Shevoke had risen ten feet.

That afternoon we watched the last body of porters march away and the next day we again went—for the last time—to Kalimpong. For four months we had left Darjeeling behind us.

THE MARCH TO KANGCHENJUNGA

BY June 21 our vanguard had reached the foot of the mountains. Four days later the first half of our baggage arrived, and six days later, the second; on June 29, eight days later, we were all on the march to the Himalayas—nine Europeans, two hundred and ten porters, six sirdars, cooks and interpreters.

Abruptly, in one swoop, the mountains rise some 6,500 feet above the plains of Bengal, which lie swimming in haze, far below, only 230 feet above the sea. Up there lie Darjeeling and Kalimpong. Darjeeling, the summer residency of Bengal, formerly of all India. Kalimpong, the terminus of the road from Lhasa and the mysterious land of Tibet. Between these two hill-stations, the Teesta river bursts out upon the plains through gorges 6,500 feet below Darjeeling. Flowing down from the northern highlands, its waters have carved out the whole mountain massif. North of Kangchenjunga, north of Kangchenjau, north of Pauhunri lie the glaciers and lakes that gave this wild river birth.

Following the Teesta, now in the deep gorge, now on the line of the ridge above, our path went north; a path often blasted out of the ravine walls, often narrow, often swept away by landslides, but still a path of incomparable beauty. Luxuriant tropical growth fills the steaming hollows of the valley. Plantains, lianas, palms, pandanus. Beneath us the cries of legions of small beasts deafen our ears from every tree. From the misty depths, precipices rise—towering 10,000, 12,000, 16,000 feet, covered for miles with impenetrable, uninhabited and uninhabitable

jungle. Here and there are occasional clearings with rice fields and a native farm. High forest up to 13,000 feet. An incredible fecundity of plant life, overwhelming natural architecture. And above all, as background to these valley gorges, a Kabru, a Siniolchu, a Kangchenjunga.

We travelled a good week through this district, sometimes lost in dreams at so much beauty, sometimes grimly awake, controlling our unwieldy band of porters

with strict supervision.

Lachen is the last place on our route that is permanently inhabited. It lies already 8,850 feet up. The general character of the inhabitants, their agricultural methods, the construction of their houses all reflect the rough, healthy nature of the highlands. There is a friendly, almost homely atmosphere about the pleasant meadows, though the intense heat of the sun and the prolific growth of flowers makes them seem almost like some exotic Paradise.

In another hour the Zemu valley opens to the westward. There nature again begins to display her whole powers, and unfolds a definitely characteristic vegetation, at an altitude of 10,000 feet to 13,000 feet. Giant silver fir and juniper with boles many feet in diameter, and waving lichen streamers recall, with their close, knotty growth, our own mountain trees. But underneath them grows tropical vegetation amid the tentacle branches of red and white giant rhododendron. One walks for miles in some vast grotto under a thick canopy of large shining rhododendron leaves, and slips through the labyrinth of tree trunks that form an aisle of fretted pillars. In other places thick clumps of the slender grasses of the dwarf bamboo rise higher than a man, lovely to look on, but impossible to penetrate.

For nearly two days we wandered through this fairy-

land, till we approached the glacier.

THE MARCH TO KANGCHENJUNGA

We have left trees behind us. Only bushes and herbage cover the slopes to some height with a dark, almost gloomy, green. The mountain slopes sweep down unbroken to the stream; the ice flow then pushes its way into the valley and forces the sides apart. About 480 feet above the valley level lies the glacier tongue, licking up to the lateral moraines in its final efforts.

About 1929 the glacier snout had shifted a little to the north. The river had washed away more of the steep banks there than before. For a quarter of an hour we had to pass so close to the ravine walls, that, overhung as they were by threatening masses of debris, one's heart stood still to think of the responsibility of taking so large a caravan past the spot; it had to be done, there was no other path. But this is typical of the Himalayas, and the porters hardly noticed the danger. They are used to these situations, landslides can form anywhere overnight, even in the villages themselves.¹

On reaching the level of the glacier, one sees a new countryside, the broad plain of Green Lake opens out: on the south it is bounded by the 100-foot vertical sides of the moraine, on the north by the uniformly inclined slopes of the foothills, and on the west it stretches out of sight, some six miles wide. One meets similar conformations near glaciers in the Alps, but on an infinitely smaller scale. What distinguishes the Green Lake plain, apart from its size, is the peculiar vegetation. There is willow and juniper, as well as undergrowth as high as a man, and fields of thick, three foot high rhododendron, six foot high juicy spikes of giant rhubarb and, above all, flowers

¹ Thank goodness we never lost one of our Darjeeling porters through falling rocks, though on the other hand one of our transport columns consisting of men from the surrounding villages was surprised by a fall of overhanging rock in the Teesta valley, near Singhik. One man was killed and several wounded. It was such a common occurrence that no one thought it worth mentioning, and we heard of it by chance much later.

in unheard of profusion, edelweiss, star upon star, whole fields, saussureas, gentians and countless others. When the sun shines, and Siniolchu, Kangchenjunga, the Twins, and Tent Peak tower up from amidst this glory of flowers, then it is so immeasurably beautiful in this broad moraine valley, that the sight of it is alone worth a visit from distant Europe.

In such surroundings at about 14,800 feet we found the strong walls and turf huts, which had formed our Camp III in 1929, still untouched. Shebbeare had got here on July 2, with seventy-six porters; the same day the second detachment, Aufschnaiter, Brenner, Schaller, Wien, myself and fifty-six porters reached Lachen, and the third party, Leupold, Pircher, Fendt with seventy-eight porters, reached Dikchu. The two laggards, Allwein and Hartmann, had arrived in Calcutta and came on to Siliguri; before the last party reached Lachen they had caught them up, and so covered the enormous distance from Bombay to Lachen, in just a week.¹

In the very first days we had more than two thirds of all the supplies that we should require during the next three months stacked up in Camp III. Of all the material that we had collected from Germany and India (about 4,000 kilogrammes and 2,000 kilogrammes respectively) we only missed two cases which had been overlooked from the Stolzenfels during that mad race with time. Eventually even these found their way up to the Zemu glacier.

And so our whole carefully planned departure had passed off according to schedule without a hitch. Even the summer rains that now poured down on us, had not delayed it. As far as Lachen in Sikkim, apparently, even at this time of the year, it seems to be always pleasant

¹ Professional duties prevented Allwein and Hartmann leaving Munich till three weeks after we had started.

THE MARCH TO KANGCHENJUNGA

during the day, but mostly wet at night. The hillsides are loosened by the water, mud-shoots force their way through the gorges so that horses nearly sink in the ooze, as Allwein and Hartmann discovered. Sometimes the path is washed away so badly that even these amazingly sure-footed beasts cannot pass. But on foot one can get along anywhere. It is higher up that the monsoon really gets unpleasant. In civilized Sikkim one can spend the night safe from the weather's ravages in the fine comfortable government rest-houses; farther on one has only a thin tent for shelter. In the Zemu valley and Green Lake plain the rain clouds hang about much longer. Realizing that we had to endure these grey rainy days, we were prepared for this dismal time.

Looking back upon the six to eight grim and sorrowful hours which broke up our regular life in Camp II, seems to me now like a nightmare. While on the march, Hartmann suddenly developed acute appendicitis. The whole party was halted at once; we put him to bed warmly in a tent and sleeping-sack, and sat up half the night under a dripping rock discussing the question of an operation. But not for very long, for by the next morning the inflammation had gone down, and the danger was over. Dr. Allwein's treatment (warmth, rest, opium and a hotwater bottle improvised out of a rubber belt belonging to the oxygen outfit) had done wonders. Two more days' careful treatment and Hartmann was himself again.

We had a short halt at Camp III, our main depot for supplies and material. More than half the porters were discharged, but many of them pleaded so fervently that we had to cancel their notice, although we really did not need them. The porters who were climbing with us put on thicker clothes, and then we moved in small detachments up to the base of Kangchenjunga to our old camping place. The huge slabs of rock that had sheltered

our tents in 1929, had turned a little, and had moved some 160 feet down with the glacier. Everything else was unchanged. The few things we had abandoned still lay there, and we used them again in one way or another.

Our eyes at once sought out the north-east spur over which the 1929 route had passed, and which we intended trying again this year. The little platforms on which Camps VIII, IX and X had stood, were still available. But in between them there had been many changes. Between IX and X were two new towers, and a sharp cleft had formed in the ice-ridge. Above Camp VIII a tower had developed an 'ice-nose,' projecting several yards, while the 'great tower' seemed to have increased in height by more than 260 feet. In 1929 we had taken twenty-five days to get from here to Camp X. This year it would again take weeks, and many fresh difficulties were sure to arise. How these were to be overcome, was still a matter for conjecture.

On Monday, July 13, exactly seven weeks since we had left Munich, we pitched Camp VI, and the next morning we attacked Kangchenjunga.

THE STRUGGLE FOR CAMP VIII

As we drew near to the foot of the mountain there was not a cloud to be seen. A series of clear, festal summer days was beginning, and Kangchenjunga received us royally, as if each one of us was a Maharajah of Gwalior, or a Nizam of Hyderabad. A salute of twenty-one guns is the recognized greeting to a great Indian potentate; Kangchenjunga celebrated our arrival from hundreds of canons. As the whirling ice particles from some salvo of avalanches dispersed at the foot of Simvu, high up on a corner pinnacle of Kangchenjunga fresh masses broke loose and swept down with a crash of thunder. These salvos continued for many hours all round us as we entered Camp VI.

Up to the topmost peaks primeval nature seemed active. Stirred to the depths, we stood there trying to grasp the immensity of the landscape. It surpassed all imagination, even for us who knew it; how much more then for the youngsters who had tried to realize it from books, pictures and stories. With eyes staring in astonishment they scanned the vast circle of glaciers. But no one can realize it as a whole. Only when everything is veiled in mist, except one solitary, hitherto unnoticed ridge, perhaps barely 20,000 feet high, which now towers higher, wilder than anything seen before, then only can one realize in retrospect the vast grandeur of these mountains. Here on the spot, anyone can understand why the natives uncover and pray devoutly to themselves at the sight of Kangchenjunga, and why they bring him a pious burnt

offering. We were not troubled by lesser fears, and the thunder of avalanche only aroused in us a lust of battle, but we stood with our porters filled with awe at the sight of the mountain. Many of the porters after they had finished contemplating it, turned their eyes on us. Seeing their looks I realize this: that because we understood their spiritual aspirations, respected and reciprocated them, so we could depend upon the loyalty of the best of them, if needs be, to the death.

From observations taken during the second half of August 1929, we had expected avalanches and rock-slides for July 1931. The thunder around us surpassed all our expectations. This made us go to work with extra caution. The 650 feet ice-fall that plunges from the upper lip of the Zemu glacier on to the glacier floor near Camp VI could again be circumvented by a route safe from falling ice and stones. This required calm and careful ice work, and was a test piece for the porters. Many of them, through giddiness or nerves fell at this spot and hung on the rope, pack and all, thus showing their unfitness to be in the vanguard. Others showed themselves so sure footed from the very first that they became over-confident, and had to be warned immediately to be careful and conscientious.

Beyond the flat upper glacier, rise the terrible precipices of Kangchenjunga, at an average inclination of 50° to 60°. Faced by these we halted at once. During the period September to October 1929, we had found that the side we must climb in order to reach the horizontal projection of the north-east spur was quiet. Only during August had we been troubled by falling stones. These zones of the mountain seem to wake out of their winter sleep during the first half of July, when the warm south-west winds are in the ascendancy. The once frozen debris comes away from the underlying rock and hurtles down;

THE STRUGGLE FOR CAMP VIII

snow-fields start sliding, and ice curtains break off. In the face of these threatening dangers we called a short halt, but soon one party got through to the 'Eagles' Eyrie,' our old Camp VII, half-way up the precipice. However the attempt was too foolhardy, and they could not consolidate the position. They turned back, and pitched camp at the foot of the precipice under overhanging rocks. Allwein, Aufschnaiter and Pircher, who were with the front party, took it in turns to stand on the glacier and observe any avalanche activity. They noted the times and directions of rock and ice falls. Only after two days, when the leaders had got to know the conditions exactly, did they take final possession of the precipice.

By a cunning use of cover, the route was so arranged that a new safe spot could always be reached in a few quick jumps. Further, an inviolable decree confined any attempt to scale the precipice to the hours between 5 and 8 a.m.; anyone reaching the foot too late had to wait there in a special emergency shelter till the next morning. Even during the comparatively quiet periods one had to choose the way under these vertical walls with care. The especially dangerous spots were jumped from cover to cover, one by one, while the others waited under shelter of the rocks ready to shout a warning if anything should come from above. In the precipice above the 'Eagles' Eyrie' ice and névé predominated; one could take longer over it, but even so only up to 10 a.m.

We lived on this precipice for more than two months. The 'Eagles' Eyrie' became the actual base for work on the ridge. It was a convalescent camp where our good cook, Tenchedar, tried to fatten us up again when we came down from higher up. All through this time detachments of porters were continually on the move; more than eighty loads were brought up, and most of them forwarded even

к 129

farther. All the time the paths were exposed to falling rock because the unusually warm weather lasted till well into September.¹

Two or three times a descending party happened to be late and not en route till midday. The effect was then like an enemy barrage, the precipice re-echoed with ceaseless whistling, howling and thunder. Masses of rock, cubic yards in extent, rebounded and smashed like glass into thousands of wicked hissing stone bullets. Unless a man had iron nerves, and could tell by the sound which were especially dangerous and which not, he would have been lost. The porters and cook at the 'Eagles' Eyrie' stood in the lee of the overhanging rock tower, and prayed in terror for the sahibs and their comrades who were moving about up there. Their 'Om mani padme hum' rose to a feverish cry, when those above cowered together behind the rocks and vanished from view in the dust and debris of the avalanche, as it swept over them. It was providential that we were able to cross and recross these precipices without an accident. But we had not left things entirely to chance; careful planning of the route, unceasing observation and quiet confidence in the face of danger, contributed largely to our safety. Altogether it was a triumph over the most treacherous danger that can threaten mountaineers, that we were able to carry on for months in this zone of falling rocks.2

Higher up actual rock gradually disappears. Between 19,600 feet and 23,000 feet the steepest cliffs in the Sikkim-Himalayas are covered with frozen snow and ice. At regular short intervals high ribs of frozen snow traverse the precipices perpendicularly, short lateral ribs branch

¹ On September 1 the process of snow clearance had reached its apex. The upper glacier was also free of snow to an altitude of 18,860 feet.

Stone avalanches are dangerous and not to be dismissed lightly, but worse is the paralysing fear and loss of presence of mind that often accompanies them. One must know beforehand exactly what to do if they should come.

THE STRUGGLE FOR CAMP VIII

out from these, and in between, the gullies left by the avalanches remain free. From a distance it has a fish-bone pattern. Close up the apparent regularity disappears, and one is faced by bizarre airy ice formations that have perched themselves one above the other upon these ribs, multi-form snow cornices sixteen and thirty feet high. Lateral ribs cling to every projection, ice cones and whole ice curtains hang down from each cornice.

The work that has to be done here cannot compare with ice work in the Alps. It is more like a winter ascent of the Kopftörl arête, except that the snow freezes into hard icy névé of far more outlandish shapes than are ever met with at home. The actual path, too, has far greater demands made upon it than any climber's track in the Alps, since it has to be trodden daily for weeks at a time by heavy-laden and less expert porters.

We had to cut away many cubic yards of frozen ice and snow from this precipice with its 50°—60° sheer drop till at last after three days' work, the route from the 'Eagles' Eyrie' to the level ridge (19,850 feet) was finished and looked like an alpine club path.

On July 22 we had reached the level ridge for the first time, but in the next few days we suffered a set back. Every day the weather had got hotter, the walls, even at this height, began to get quite soft. The paths we had cut collapsed and filled up, the snow cornices broke away under us.¹

This was quite unexpected, as in 1929 we had had 11° Celsius even in August, and at first we were quite at a loss as to what to do. We felt so disheartened that, but for our previous knowledge of it, we would have given up the north-east spur a second time. But it is the only way to the summit of Kangchenjunga, and so we had to reckon

the summit of Kangchenjunga, and so we had to reckon

The summer of 1931 was particularly warm and moist; in August the thermometer at 19,000 feet only fell below zero (-2° Celsius) on three occasions early in the morning.

with these new difficulties. To surmount them certainly called for threefold labour, care and time. Under the circumstances a half-way camp was necessary. As there is no level piece of ground we had to make one, and we dug out enough of the ridge edge to make room for the little windproof tent. On July 25 the first fine day for a week, Hartmann and two porters hacked out a place on the ridge for the camp, and provisioned it. Allwein and I prepared the route to the col from which the north-east spur rises in a single sweep of 5,580 feet. The ridge was surprisingly free of snow, and the cornices that crowned it were several vards lower than those in September 1929. Recalling what Kellas (for instance) writes about snow in August, it seemed quite possible that this lack of snow is regularly balanced by the first heavy falls occurring in August, and the fear of such a contingency made us look forward to the coming weeks with anxiety.

The lovely weather this day tempted us to work later on the ridge. We expected that the temperature would sink rapidly towards evening, and the precipice remain quiescent; then we would return. But instead it began to rain, and the snow bosses which had already been dangerously thawed by the hot, sub-tropical sun, began to melt more and more while we grappled with them and could find no foothold. The return was very dangerous; the mountain need not have added a particularly large stone avalanche for our benefit. We quite realized already that no party should be en route in this zone during the afternoon under any circumstances whatsoever.

And so the next day the shock troops, Allwein and Pircher, were at once permanently drafted on to the ridge so as to be nearer the van, and so able to employ the short working hours with more effect. It then only remained for the transport column to make its perilous way up the side, and that we could arrange so that it would be back

THE STRUGGLE FOR CAMP VIII

again at the 'Eagles' Eyrie' by 10 o'clock. We hoped that in this way we should have the path to Camp VIII ready

by about July 28.

But on July 27, when I got back to the 'Eagles' Eyrie' after an expedition to Camp VI, all these fair hopes vanished. The ridge party had returned, Allwein had got sciatica from the damp, the rest were coughing miserably. An epidemic of colds went round among porters and masters. I myself had such a cold that I could only drag myself up to the 'Eagles' Eyrie' with difficulty. Some of our best high-level porters even had mumps, and had to be isolated as far as possible. We all badly needed a few days' rest. From July 27 on we remained in the 'Eagles' Eyrie' and nursed ourselves. Our intrepid cook, Tenchedar, climbed up to our airy camp and dished up menus and dinners of at least three courses, in the effort to feed us back to health. We certainly used far more methylated spirit than we had anticipated.

Our tents backed on to the rock tower. From the exposed side we looked down the steep rock-face to the Zemu glacier, and when the clouds lifted we could see Kangchenjunga and Simvu opposite. Had the sun shone it would have been the most glorious spot on earth, created to drive away all illness and depression. But it snowed every day with only the shortest intervals. In addition the day temperature was usually a little above zero, so that the snow immediately turned to water. In spite of every effort our colds got no better in this cold damp weather, and it seemed pointless to go on resting. At any cost we had to get through the blanket of cloud to higher regions where, through momentary gaps, we had seen the sun shining on the peaks, and where at any rate we could expect an honest frost instead of the sopping wet.

On August 1 Hartmann and I again migrated to the ridge camp. It was the first fine day and avalanches were

thundering down. All our former tracks were buried a yard deep under a wet covering of fresh snow. We anxiously scanned the wild, sun-softened pinnacle towers higher up, our task for the morrow. One of them in particular caused us apprehension; a few days before with grim humour we had christened it the 'Crooked Death.' It was a little query mark on our path, for to climb it was impossible. It must go, but how? We were deliberating this point when suddenly, while we were looking, the 'Crooked Death' leaned forward, fell into space, and crashed into a thousand atoms on the Twins glacier below. The next day Pircher and Wien came up as reinforcements. We fixed them up about eighty feet westward in a gap on the ridge. We lived up there for days on a veritable razor's edge; northward the rock-face fell sheer away from our tent like a church steeple, southward ice gullies and ice ribs swept down at an angle of 60° on to the upper Zemu glacier, several hundred yards on either side. It was quite incredible to wake in the morning high above the sea of clouds and to greet the sun as it rose above China, India and Tibet. Up here one literally floated in ether. Before taking a step, one had to remember that one was still earth-bound. When working in the stores we had to be roped; culinary exercise was best indulged in from the tent. On the four square foot of space in front of the tent stood the primus stove, the stew-pan, and other cooking and eating utensils. We took our communal supper crouched together in the first tent, and ended up with a pipe or cigarette. These gatherings often went on rather late as it always snowed in the kitchen during the evening, and we anxiously watched our 'guests' depart to their 'bedroom,' roped together and groping their way with ice-axes over the appallingly narrow arête, usually by the light of a lantern.

The ice formations on the ridge are quite different to

THE STRUGGLE FOR CAMP VIII

those we know in the Alps. It seems that up to 23,000 feet there are no strong winds in the Zemu region, and particularly on the north-east spur in summer, owing to the fact that they are sheltered from the west, south and north. So there are no drifts, but the snow piles up as it falls, even on the ridge, into high bosses, overhanging on all sides. Under the changing influence of the sun's rays on the one hand and the cold of the night or of the sunless flanks on the other, these soon turn to ice and frozen snow.

These snow bosses were frozen hard in September 1929; they gave us a lot of trouble, but all the same were so safe that we could quite well trust ourselves to them. This year, in July and August, they were rarely frozen hard; generally the night frost was only sufficient to freeze them on the surface, below they were still watery. All that we had done a week before according to our old system had been almost useless. In the soft snow mush we had to make a far more solid path. We had to employ a new technique, either to stamp down the snow masses hard, or to clear the ridge completely.

Day after day Hartmann and I, first alone, then with Wien and Pircher, had set out early and pushed the path a little farther on. The work progressed slowly but surely, and as it seemed in good hands, I felt that my presence was no longer absolutely indispensable. Hermann Schaller relieved me, happy to be at last right in the van. I had to descend to Camp VII to write a report for the Press, and to be at hand in case the death of Babu Lall should have caused trouble among the porters.

Babu Lall had died in a way that seemed curiously tragic to us. He appeared to have resigned himself to die with fatalism, and with no thought of resistance. He complained of headache, and Leupold gave him medicine: veramon the first day, aspirin the next, and then quinine.

We did not think he was really ill, but arranged for him to go down to Camp III on the third day for treatment. On the way he lay down to die. His escort dragged him further, a rescue party from Camp III met him and carried him for a day. Half an hour before reaching Camp III he gave up the ghost. He was buried by Fendt and Leupold with all honours, for he had been one of the faithful band who had remained with me to the last in 1929. He was Leupold's batman and accompanied him on his second journey to Gangtok. That is where he must certainly have caught the fatal fever germs. (It is uncertain if it was malaria or blackwater fever, or some other tropical fever, as none of the doctors had examined him.)

He was the first victim among our porters of the deadly

climate of 1931; others were to follow.1

Meanwhile on the ridge the shock troops were slowly approaching Camp VII, struggling fiercely against unfavourable conditions. The last short section from 'Little Camp'—as our porters had called the emergency camp that Beigel and I had pitched on the ridge on September 20, 1929—to the first terrace particularly held us up. The ridge itself had got so soft that, after fruitless attempts, we had to give it up. We tried the face. At first that too was a failure. Hartmann writes in his diary on the evening of August 6, 'Pepperl (Pircher) was in a bad humour to-day, and I too felt sore at heart because we

¹ The unusually great heat and moisture of 1931 in Sikkim and Bengal caused the appearance of Anopheles Ludovii in particularly large numbers, while other epidemics, especially typhus and dysentery, were frequent. Our head porter, Lobsang V, who had already made a reputation with the Everest expedition, succumbed, and died in hospital in Gangtok, to which we had transported him. Fendt got paratyphus. Many of the porters got malaria; Leupold himself and later Hartmann and Pircher went down with it, although we took quinine regularly. Whether our dose was too small, whether it was sometimes unobtainable or forgotten, is uncertain. After our return from Sikkim an epidemic broke out there in which, as we learnt from the mission at Lachen, over a hundred persons died. My faithful servant Kami was one of the victims. The two lady missionaries in Lachen were also very ill for months.

THE STRUGGLE FOR CAMP VIII

had done so little...it was a day of blunders, but now at least we know the right route and will dig it out to-morrow.'

The next day Wien was engaged on photogrammetrical work assisted by Hartmann, who thus comes, 'as a victim of science, to enjoy a lovely day's rest in the sun in the ridge camp.' Schaller and Pircher finished work on the section of the path that was to prove so fatal to us two days later. It did not lead over the ridge as in 1929, but from 'Little Camp' first for 130 feet along the face to the foot of a gully, then a rope's length (100 feet) up through the gully, till one could climb out on to the rib beyond. From there one could reach the camp terraces in a very few minutes without further difficulties.

Schaller himself writes in his diary about the disposition of this route.1

'At 8 a.m. we are behind "Little Camp." Putting on climbing irons, etc., makes it 9 o'clock before we begin the traverse. It is hard work to cut reasonably good steps in the smooth ice. In the gully by 10 o'clock. Hans (Pircher) tries to get up on the right side. The snow here is too soft, and after a few yards he slips down, bringing the snow with him. There only remains the gully itself, ice covered and swept by avalanches. Hans hacks his way up for a few yards. A mass of falling snow from above completely buries him. For the moment we give up a further attempt and retire to a rock. The only way up is the gully. I lead and work my way up slowly. After a rope's length I climb out on to the left-hand snow rib, and let Hans come up after me. It is a quarter to twelve. We traverse a little to the left and climb directly over the drifts on to the nearest terrace. Hans takes over the exacting work of making the trail. From the first terrace I make a traverse under the slope of the main terrace to the right, and crossing a crevasse, climb on to the beginning of the terrace. One more rope's length and then we halt. Half-past one. We soon leave the snow-exposed spot and work our way

¹ After a long search Schaller's diary was found later by Hartmann at the foot of the gully.

slowly down. At 3.15 p.m. we are back again where we left our belongings. Another good rest, and then as quickly as the softened snow permits to the ridge camp. There by 5 p.m. Some food, then into the tent to rest. To-morrow a day off.'1

Two and a half weeks had already passed since we had attacked this section. Then one evening the long awaited signal came from the camp on the ridge, that the path had that day been pushed up to the terrace. We breathed again. At last we could move on a little, the higher we climbed the safer our route became. On August 9 we were really to take possession of Camp VIII, which we ought to have reached a fortnight before.

The extracts from the diaries are given unaltered, just as they were written—usually on the evening of the day in question—by tired men in trying circumstances.

A SERIOUS ACCIDENT

A UGUST 9 began with a tremendous onslaught. Fourteen men started simultaneously from the ridge camp and from the 'Eagles' Eyrie.' Half of these were to pitch the new camp on the first terrace. Hartmann and Wien went in front to clear away any obstacles and to enlarge the footholds. They were just on the point of entering the gully in front of the terrace when we reached 'Little Camp.'

For the last time I sat there with Schaller for a short rest. We had hard work behind us, a great goal and dangers ahead of us; that brings men together as nothing else can. The warm sun was above us, the glistening mountains round us, and far below flowed the glaciers. Where could one better enjoy the world, one's work and one's companion? Schaller drank it all in for the last time. Then he roped up with Tsin Norbu and Pasang. Pircher, Bagde and I followed.

When I saw the traverse and the gully near to, I was really scared. That was no way for our porters. I felt an urgent, intuitive warning, born from some instinctive, deep experience. The traverse and the gully called above all for a reliable mountaineer, and which of our porters could be considered that? The men who had come with us so far were excellent marchers, but who could know what atavistic fear complex might not lurk in their minds? Who could tell but that in some avalanche they might not sense a supernatural power to which they would yield in predestined surrender?

More than once I raised my whistle to my lips to call them back; we must find a new route somewhere else and postpone our advance. But I always dropped the whistle again. Schaller and the two porters were already at the gully, Hartmann and Wien already tramping across the lower terrace. If I had called them back they would all have had to re-cross the difficult section. The retreat would have caused confusion and annoyance. And, in addition, new and greater dangers. For the present we had to go forward; we could not delay now.

And so I stood full of anxiety, at the commencement of the traverse and followed every movement of the others with my eyes, as if by doing so I could help and support them. Schaller climbed slowly. He carefully cleared every step of the frozen snow that had fallen on it, and enlarged it. Then he disappeared from my sight behind the broad projection of the nearside rib of the gully. After a little while Pasang followed and likewise disappeared behind the rib. The third man, Tsin Norbu, stood at the foot of the ice-couloir and payed out the rope from the boulder that secured it.

Suddenly a black form—Pasang? flew out, Schaller's tall figure with rucksack streaming out behind, followed as silently. Falling faster than Pasang, he passed right over him; both crashed at the foot of the ice-couloir, and rebounding, were flung into space.

Snow followed them. For the fraction of a second I waited, praying that the rope would hold, praying for a miracle, for I knew that no rope is strong enough to stand the shock of two vertical falling bodies. Like a flash the two fell with irresistible impetus through the gully, farther, farther and disappeared. Moist dirty snow and debris slid and hurtled down; the powers of hell were let loose in the gully, then all was still.

The next moment I saw, on the cone of the avalanche,

A SERIOUS ACCIDENT

1,750 feet below, something black—a man?—slowly stop rolling and come to rest. It was over. Bagde screamed and cried aloud for his lost friend, with clawing hands he tried to follow him into the abyss like a madman.

We too felt a terrible, uncanny temptation to spring down after our comrades, and while we shuddered at our own weakness, we tied Bagde up securely. A hoarse, deep groan escaped me. Pircher cried mournfully, 'What is it?' He would not realize what he, like me, had just witnessed.

Quick, painful thoughts crowd through my brain. My dear Hermann! His parents—his poor mother—his father! Our own parents! Those at home! I felt my responsibility and spoke to them in spirit: let them be the first to realize and understand. Despair at human impotence threatened to seize me. I had done all I could to ensure our safety. It was a heavy blow that all our toil and care had not been able to prevent this. How should we go on? How could I reassure the porters? How deeply would it affect my comrades? What was the next thing to do? Pircher and I must have stood thus for some moments when he cried out to me harshly; fear for our goal, defiance and prayer were in his voice: 'But our great goal, Captain, surely we won't give that up?' Finely spoken. I laid my hand on his shoulder. Here was something I could rely on. My mind was soon made up. We must all turn back to search for our fallen friends and probably bury them. We would first show them all honour and affection. Then we would return.1

We set about the work. Bagde was firmly secured, whimpering distressingly. When the dust in the gully

¹ Which of the two victims was actually climbing, and which was tying up at the moment of the accident cannot be determined, as neither was visible. We could get nothing out of Tsin Norbu. It is clear that a fall of snow threw Pasang off his balance. This is not the same Pasang who came up with us to the highest camp in 1929. Hermann Schaller could have resisted the fall of snow had he been alone, but could not support the falling porter who dragged him down with him.

had cleared away we saw Tsin Norbu. As though spirits had rushed madly over his head, he clung motionless, huddled together on the rope. We released him from his awful plight. Terrified he clutched the belaying rock, his face buried in his hands, when Pircher grasped him by the shoulder. His rope was coiled twice round the rock—he must have done this at the moment of the accident. The force of the fall had cut the part of the rope between him and Pasang and Schaller on the sharp edge of the belaying rock. We brought Tsin Norbu across the traverse, placed him beside Bagde, and climbed again over the traverse and up the awful gully in order to fetch back Hartmann and Wien. It was a terrible day. Let Hartmann's account describe it once more:

9. VIII.1

'At 6 o'clock Carlo (Wien) and I leave our camping ground. We want if possible to get ahead of the others and re-make the route. Xaverl (Schaller) and Pepperl (Pircher) are waiting for Bauer and the coolies who are coming up from the "Eagles' Eyrie." And sure enough as we cross the big shoulder of the ridge, we can see over the rib that leads to the ridge, a party climbing. So to-day at last we are moving on up. Ten men come from the "Eagles' Eyrie," a long snake that crawls over the rib. Alisi (Allwein) too, whose sciatica is better, is with them, and leads some of the porters with supplies up to the ridge camp where he turns back. While Carlo and I are spending an hour hacking away at the ridge by Little Camp, Xaverl comes up slowly with Pasang (139)² and Tsin Norbu, and Bauer with Pepperl and Bagde. All, including ourselves, are heavily burdened in the effort to bring up as much material as possible to Camp VIII at one journey.

'From the commencement of the traverse to the vertical gully has taken us four and a half hours—a long time, but the path had frequently to be repaired. The others are already in sight behind

²Our porters carried identity discs with the number of the register of recruits. Pasang had No. 139.

¹ I have not altered anything of these notes of Hartmann. He wrote them on the rock island a few days later.

A SERIOUS ACCIDENT

us at Little Camp, as I begin to cut fresh steps in the ice-traverse. For a good rope's length we move across the ice to the left, the rope firmly secured. Here is another good belaying place, a sharp point which projects from the ice of the gully in which I am standing. Carlo leads, but unfortunately the gully is also full of smooth soft ice, and Carlo cuts steps. For 100 feet we move up the gully, fairly easy with climbing-irons. Then a few steps to the left on to a ledge. Here Carlo lets me join him. Then about two ropes' lengths through deep snow over the rib and a short traverse to the right under the top shelf of the camp terrace, and we stand upon the broad snow surface of the horizontal section of the ridge. Suddenly to find such a large level snow surface after having moved about for nine days on ground where every step had to be watched—that feels fine. Carlo and I sit down in the snow and cook; we have had nothing to eat yet to-day except a few rusks, and worse still, nothing to drink. The snow soon melts in the cup under which some pieces of Meta fuel are burning. We throw in a few sweets—all we have—and it tastes delicious. Twice more we fill up the cup with snow.

'Meantime it is 3 p.m., we had reached the terrace at 2. A thick mist blots out our view. We start exploring farther up the terrace. Everywhere is thick deep snow so that one sinks almost to the knee at every step, and deep blue glistening holes mark the trail. A large crevasse crossing the terrace diagonally forces us to turn back. We calculate that it will not be crossed to-day, but that we will pitch tents below it. We return a short distance and then begin to stamp down a site for the tents. Exacting work with many pauses for breath.

'It is half-past three, why don't the others come? Xaverl with his two porters (carrying primus, tent, sleeping-sack, etc.) left Little Camp soon after us. The path has been made and steps cut. Perhaps the route is still too difficult for the porters. Whatever the reason, progress seems slow. It begins to snow lightly. We creep into our tent-sack, it's nice and warm there. Suddenly we hear a call quite close, they are really coming. Pepperl and Bauer are standing on the edge of the terrace and beckoning us back—why? Bauer says we must turn back with him, the trail is too much for the porters, they cannot make it, we must all return. That is hard! I implore Bauer to leave us up here; we have got a tent-sack and

can dig an ice hole and to-morrow we can retrace the path and hack it out better. But Bauer insists quite calmly that we shall return with him.

It is half-past four when we begin the descent, irons on our feet. For some time it has been obvious that we could never reach the ridge camp to-day. Why don't we stay up on the terrace if we really can't get down and so have to bivouac on the ridge?—all this passes through my mind.

'Slowly and carefully we descend. Pepperl cuts huge steps in the ice gully through which we climb down, for descending calls for real caution. As we reach Little Camp, shortly after six, we know we must bivouac here. I soon perceived Tsin Norbu and Bagde, crouching against the projecting rocks, and I ask if Xaverl and Pasang have got down to the ridge camp in time. Bauer says: "Understand, we are not here without good reason. There has been an accident, Xaverl and Pasang fell while ascending the steep gully. Tsin Norbu was last on the rope and was holding it passed round a rock for safety. He was not carried away too because the rope broke against the rock. We had to carry Tsin Norbu back and had meanwhile secured Bagde with a rope—he had collapsed completely. We then tried by signals (calling and whistling) to make you two on the terrace understand, but without success. So I climbed up to you with Pepperl through the gully, the rest you know!" Like lightning it flashes through my mind—this is why we must descend. Now to work, thinking won't help us. We prepare a place in the snow between two projecting rocks and hang the tent over them. There is no room to pitch a tent here—we can only sit squeezed closely together. Bauer, I, Carlo, Pepperl, Bagde and Tsin Norbu —in that order. Carlo sits on a petrol tin, I have a projecting rock in the small of my back, I can't move an inch, but it is not too bad. Only our feet rest on the snow and get cold; 1 rubbers off, shoes loosened and stamp about-that's better. I make an attempt at cooking, using an empty tin and the rest of our Meta fuel. We boiled up some apricots, heated two lots of water with sweets in-

¹ Hartmann had had both feet frozen during a winter ascent of Piz Bernina via the Biancograt, April 4 and 5, 1929. He had to have both feet amputated from the metatarsal bone. (Lisfrank's operation.) But his energy had overcome this loss so that he could walk and climb as well as ever. (Ascent of Piz Badile by the N. ridge first winter ascent.)

A SERIOUS ACCIDENT

never more than a small tinful—that was all we had. Xaverl and Pasang had got all the provisions. The night passes slowly, 10, 12, 2, 4 o'clock, it begins to dawn. We slowly stir ourselves. The tent is pulled down, it is full of snow and ice, there was snow during the night. It was Sunday!'

Defeated and depressed we descended to the ridge camp. We saw Aufschnaiter arrive there with a supply party; in answer to our signal he waited till we joined him, and then took the news of the accident, and instructions for the next days, back with him. The camp at the 'Eagles' Eyrie' was to be struck at once, and all, including the porters, were to climb down to the glacier and search for the fallen men.

We could not descend to the 'Eagles' Eyrie' as it was too late for the whole column to reach it. The next day, as we were coming down, we saw Allwein and Aufschnaiter below on the avalanche cone; they were dragging a black form from the rock face, it lay quite still, alone in the white snow. They placed a second body beside it. The last spark of hope which we had felt, and had nourished against all reason and sense, was extinguished. Poor Bagde collapsed completely when he saw the two forms lying there so lifeless and still. We only got him down with difficulty.

The morning of August 12 Hartmann and I reached the victims. Schaller was scarcely disfigured at all. Outwardly one only noticed the severe fracture of the skull which he probably received at the first impact at the foot of the gully, and his right arm which was broken in several places. We rendered him and his servant the last labour of love. We straightened their limbs, adjusted their clothes, folded their hands and carefully secured them with ropes. We then wrapped Schaller's body in the large quilted sleeping-sack which he had carried in his rucksack. Meanwhile the porters and the rest of the

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Europeans had joined us, and after a short prayer we began to move off. It was a colossal task, especially considering his size and weight, to carry Schaller over the crevasse-riven glacier, through the deep moist snow. If we had not all been desperate with grief for our dear friend, we could never have accomplished it at this altitude.

We chose the rock island that lies in the basin of the Zemu glacier as burial ground. The rear Camps III and IV had received their instructions. All available porters had already been sent up, Leupold, Fendt and Brenner were to come to the funeral. All communication with Lachen had been cut off in order to prevent the news leaking out prematurely. We wished to bury our friend first, then inform his relations and, lastly, the public. It was a survival beyond death of that intimate comradeship that had bound us, that we wished to be alone with our dead here on the Upper Zemu glacier, bearing our grief alone until the earth had received it.

When we tried to move our camp away from the rock face, where stones were falling too near us, over to the rock island, we experienced our first trouble with the porters. They did not want to move as they had already made themselves comfortable where they were. Their spokesman was Tsin Norbu, the survivor of Schaller's party. He was the best mountaineer among them, but obviously spoiled by former expeditions where, thanks to his greater intelligence, he had succeeded in imposing his will upon the other porters and, through them, upon the white men. Now that fate had dealt us a blow, he thought the time was ripe to enlarge his sphere of influence at our expense. But without success. No one dared to disobey orders, and finally Tsin Norbu himself shouldered his pack and crossed to the island. I stood by and watched, showing no displeasure and making no

¹ Brenner and Fendt could not come after all, as Fendt fell seriously ill.

A Serious Accident

threats. But each one knew that I should regard it as a bad breach of discipline if he refused to obey at this juncture.

During the next two days we carried the two bodies right across to the rock island. Our porters dug the grave and the interment took place on the afternoon of August 14. All around the amphitheatre of glaciers was silence, the sun shone half veiled, three eagles circled high above the island, the camp fires of the porters crackled. Tenchedar, Chesang and Tashi intoned Tibetan psalms, and we stood motionless round the grave and took leave of our friend. A few words, a silent prayer and we covered him with earth.

That evening we planted the grave over with wonderful flowers which flourished abundantly on the rock island. The next day, too, we devoted to our friend's resting-place.¹ On the smooth planed granite block at the head of the grave we built a mighty stone cairn that looked far over the glaciers. We had laid everything else aside and lived for days alone with the dead. We had built them a tomb that no prince on earth could hope to have, such as only comrades can raise to one who has fallen in a good fight.

¹ August 15, we sent telegrams and letters to Beigel in Munich, whose sad task it was to break the news first to Schaller's parents, then to ours, and then to the public.

THE CONQUEST OF THE GREAT PRECIPICE OF KANGCHENJUNGA

Ror me, personally, the prosecution of our attack on Kangchenjunga was a foregone conclusion. From the very beginning we had all weighed the possibility of an accident. Each man wished that at any rate the others should reach the goal, even should his own life be prematurely ended. Only a few days before the disaster the conversation in the ridge camp had turned one night upon this theme. Hermann Schaller himself, in his quiet, logical way, had touched upon it as being something about which neither he nor we had any doubts. So above all, it seemed like a legacy left us by our dead friend that we should remain true to our goal.

But it was no easy task. Our ranks had suffered severely. We had lost in Schaller our most efficient unit. Early on he had suffered slightly from dysentery, but had been latterly the healthiest of all; he had even escaped the cold that attacked all the rest. The conscientious way in which he guarded our supplies had made him a valuable lieutenant to me. He had always looked after others. His diary always begins with the statement 'At 4 o'clock, at half-past four got up and cooked.' He left behind him a great gap in the ranks of the ridge party.

Leupold and Fendt had been almost for months in sole charge of the porters in Camps VI and III, to augment supplies, keep them in good condition and prevent theft. They were both so ill that they could often hardly do their work, in fact they needed all their strength to manage to live at all. Leupold had gone down with malaria, Fendt suffered from what was only later recognized after careful

GREAT PRECIPICE OF KANGCHENJUNGA

examination at home, as being paratyphoid. His condition, during the days when we were burying Schaller, was so critical, that Brenner did not dare leave him alone, but

stayed down in Camp III to nurse him.

Brenner's health was also poor, while Allwein still suffered from sciatica, contracted suddenly three weeks before on the ridge. In addition both had private worries. Brenner had left a young wife at home, and while on the Zemu glacier had received news of the birth of a daughter. One can understand that his thoughts were often at home. Allwein lived in constant anxiety for his old father who had not wanted him to leave home. The accounts he received of his father's health were not very reassuring; actually he did not see him again.

So only five remained to tackle the arduous task on the ridge with strength unimpaired, viz., Aufschnaiter, Hartmann, Pircher, Wien and myself. Actually Wien was the only really fit one, the rest of us carried a cold about with us that never left us till we got down again to warm Sikkim.

Things looked worse still with the porters. From the first they were not the same as they were before. There were several cases of theft, which were only kept within reasonable grounds because we exercised a sharp control. Many of the porters wanted the highest wages for the least work, and tried to inculcate this principle upon the honest and enthusiastic ones. It was not quite clear which influence would have the upper hand. Even if the men of 1929, and especially Tenchedar remained true to us, yet Tsin Norbu, the arch conspirator, had—obviously for racial reasons—very great influence with his countrymen. All the circumstances (the bad condition of the ridge, the poor state of general health, and the grim disaster) combined to strengthen his case.

In addition to all this, came the alarming news of an

embargo on payments and the threatened collapse of German credit, which would be bound to affect the finances of the expedition, as we had raised all our funds in Germany. It was then that the ranks wavered. Under these circumstances could we stay there? Ought we to, in factshould we not save every penny for Germany? Is not our place at home, to stand by our families, to save our very existence from catastrophe? But in any case it would have been too late. So we were doubly determined to stick to our post-if everything else should totter, we would stand fast, and we attacked Kangchenjunga once more. I could only depend upon our own porters going with us, and they did not leave us in the lurch. Tsin Norbu left! 'His father was ill,' he said. He had played his hand.

On August 16, Wien and Pircher were the first to climb to the ridge camp. It was some days before the porters would follow. I did not urge them to, they had to come of their own free will. One evening there they stood, Tenchedar leading, then Pemba, Kami and Ketar. Hartmann and I then went up with them to the ridge camp on August 20. Conditions were worse than ever. For the short section of barely 700 feet rise we took ten full hours, laden as both we and the porters were. Not one of them grumbled; like us, they were resolved to brave the worst.

We four, Hartmann, Pircher, Wien and I, with our faithful porters, Kami, Ketar and Pemba, lived and worked now for more than a month up on the ridge. Aufschnaiter in Camp VII was our support; he came up every day with

one or two porters and replenished our stores.

It remained doubtful for several days whether we would ever get up to the first terrace again. To start with, we had to avoid the gully where the accident had occurred, out of consideration for the porters. So the ridge itself was made practicable. But this short section of ridge barely 230 feet in height, made extraordinary demands upon us. It

GREAT PRECIPICE OF KANGCHENJUNGA

descends on both flanks with terrifying steepness. This ridge which rises to a height of 20,336 feet, is, at a point 1,300 feet below (i.e., at about 19,000 feet) barely 1,300 feet wide. On this edge one ice mushroom after another was piled up house-high (see illus. 67). What Hartmann, Pircher, Schaller and Wien had thought impossible a fortnight before now had to be made possible. The snow bosses that were too unsafe had to be levelled in order to obtain a firm foothold. Of those that were safe, we either dug half-way so that we could slip past, and still have the other half as a sure handhold above the abyss, or we drove a yard high tunnel through them. We had to hack away enough of the ridge edge to make it broad and firm and fit to support safe steps. Without the experiences of 1929 we should never have mastered this section. It was not easy to stand on the softened snow edge, and less easy still from this perilous stance to deal a blow at the overhanging ice gendarmes. Each blow had to be carefully adjusted, each was a work of art in itself. One faced these ice pinnacles as one would a beast of prey, balanced freely between heaven and earth, and always on guard not to be carried away when they eventually did topple over. Hartmann overcame the most difficult spot. He managed to squeeze past to the right of the highest tower, first under, then past it and then up it, and finally with Wien's help caused its collapse from above.

On August 24, a fortnight after the accident, eight days after we had reoccupied the ridge camp, we at last emerged with bag and baggage upon the first terrace (see illus. 64) and could fix ourselves up there permanently. Above Camp VIII the ridge takes on the strangest shapes (see illus. 66) and there, in 1929 was the key to the northeast spur. In 1931 the mountain had already presented such difficulties lower down, had attacked us with such heavy artillery, had driven us back and destroyed our

work, that we had got quite hardened. We laboured away at this series of ice towers almost mechanically, until after a week we had overcome them too. Hartmann's diary describes these days in detail:

'August 26. At half-past five the snow is put on the primus stove—the sky is clear. Half-past seven the cocoa is ready—and mist envelops us; we can only see the outlines of the nearest ice pinnacles shining through. At nine o'clock Carlo and Pepperl start off to get to grips with the nearest ice tower. They trudge slowly up the terrace through the deep snow, and disappear in the mist.

'I have to stay here and help Bauer dig out the ice hole. We dig a few yards in the snow under our camping ground—it is to be the entrance to our ice hole. Kami helps a lot by shovelling out the hole, a native has much more endurance then we have. When at noon we tramp up to the tent, we have already got a large hole in the ice. It is a narrow, beautiful gothic archway (see illus. 70), behind it a large ante-room from which a "bedroom" leads half-left deep into the snow. Everything is in gothic style—pointed above and running downwards in parallel lines—for in this way water from melting snow or condensation runs down the walls without dripping.

'Towards three o'clock Carlo and Pepperl return from the ridge. They have been trying to circumvent the first tower on the Twins

side and have begun a traverse to the right in the ice.

'A hearty meal, macaroni with ham and lots of tea for lunch. During the afternoon friend Bauer, with Pemba and Ketar, finishes the hole, while we sit cosily in the tent.

'August 27. Carlo and Pepperl up early with the porters and down to the ridge camp to bring up supplies. At nine o'clock Bauer and I leave the camp as well and tramp up the terrace, roped together, to the ice tower.

'First we cross a bridge over a wide crevasse that strikes across the terrace diagonally. A second, smaller crevasse follows, and then the whole plateau ends in a gigantic ravine-like cleft filled with icicles, which thus separates it from where the ice towers begin.

'We cross the great cleft lengthways. The blue sky is shredded into narrow strips by icicles fifteen feet long. It is quite fairylike here

GREAT PRECIPICE OF KANGCHENJUNGA

—what a subject for the Leica camera! For a rope's length we climb vertically in an S-shaped ascent till we reach the foot of the first ridge tower proper. It cannot be climbed by the face as most of its bulk overhangs. A traverse on the Zemu side—although not so steep—is slippery, as a fall by Carlo yesterday showed us. But at its base the ice tower has a hole, a regular window in the ice of the ridge. Through that one can easily reach the Twins side, and here Bauer cuts a beautiful ramp in the ice which mounts sharply for a rope's length and then leads to the top of the first tower. A grand and safe way. Now we proceed along the ridge, partly on a razoredge and partly over broad lofty snow bosses, till we are held up by a second, very evil, ice tower.

'It is half-past eleven. We take a short rest and then get to work. This second tower is as broad above as below throughout its seventy feet altitude, and stands up like a vertical knife edge. We plan to climb it by its steep front edge. After an hour and a half I am a few yards higher, then comes Bauer's turn. We move slowly. Bauer has to cut away a lot before he can stand on comparatively safe ice. The whole tower consists of a mass of icicles covered with loose snow, and when attacked it reveals sudden holes, now on the Twins side, now on the Zemu. The astonished climber finds himself looking down some 3,000 feet on to the Twins glacier or on to the debris-strewn Zemu glacier. Well, we can't go on like this. Friend Bauer has had to cut away as much from the face which, never quite perpendicular, is now overhanging and threatening to fall with the first breath of wind. Our path leads over this. It is half-past three, so we finish for to-day and turn back.

'The next day we try on the Zemu side where lower down a quite nice shelf leads up to the tower for a short distance. Unfortunately there is nothing to be done on the Twins side; everywhere just huge ice pinnacles soaring into space, while the tower leans over towards the Twins glacier (see illus. 67).

'At half-past four we are back again in camp, where the others who had arrived with their loads about two, receive us with a sweet "jam pudding." To-day was a lovely sunny day! Before creeping into our sleeping-sacks we sit for a long time that evening, side by side, and talk about the steep ice towers that still bar our way, and of how we can circumvent them. They appear to be

different to the towers that our people found here in 1929. Everything has changed tremendously! Even the platform of Camp VIII, which, two years ago, was quite flat and unbroken, now slopes up steeply, and is split by three crevasses. On the other hand there seem to be fewer ice pinnacles to-day. Bauer thinks that the very difficult tower which we reached to-day is the Tunnel tower of two years ago. Even then it cost us more than a day's work, and had to be overcome by means of a tunnel through it. Now all that is left seems to be this top heavy knife-edge, and no sign of a tunnel!

'August 28. Carlo and Pepperl have to descend again to the ridge camp with the porters to bring up stores. We have got the greater part—at least enough for three weeks—up here already. There are still five loads to be brought up from the ridge camp. The oxygen apparatus stays down there, we do not need it, and,

as a matter of fact, could not get it up here.

Bauer and I start off again to attack the tower. It is already past ten when we leave the camp. To-day is misty and so the snow is still firm and solid in spite of the late hour. After forty minutes, we are standing by the tower! To-day we shall try on the left—the Zemu-side. Bauer goes in front to inspect it. The first part of the traverse is good and leads to a gully which is flanked on the farther side by a snow buttress. There is a lot of cutting away to do. Bauer cuts for an hour and a half slowly but uninterruptedly, and the path to the gully is ready. Fine! Now comes my turn. A moist snow layer nearly a yard deep which descends to the valley in more or less incalculable chutes, must be demolished from the gully. Underneath it is ice in which I continue my traverse to the buttress. It is again half-past three as we turn back, but to-day we know this much: one more similar ascending traverse on the Zemu face and we shall surmount the overhanging face, reach the ridge of the tower and so to the top.

¹ We had provided ourselves with a small supply of oxygen (1,500 litres in three aluminium flasks under 150 atmosphere pressure), and had fixed up a quite simple breathing apparatus. The oxygen was to be used as medicine in case of necessity. But with our shortage of porters it had proved impossible to bring up this heavy load all the way. In any case we had had to divide it into two loads at the higher altitudes. We all felt we should not need it. My own case was an example. The oxygen would not hove below the provider of progressing the provider of the provider example. The oxygen would not have helped me as later I developed an enlarged heart. My condition did not improve automatically on descending to more oxygenated air, but rather quite gradually through weeks of rest.

GREAT PRECIPICE OF KANGCHENJUNGA

'At half-past four we stand, tired out, in front of our tent; the others have again cooked for us.

'Early to bed to-night as Bauer wants to be down in the ridge camp by half-past seven to meet Peter, who by that time will have come up from the "Eagles' Eyrie," to discuss all arrangements for transport.

'Pepperl and our three coolies will go down with Bauer and bring up the rest of the supplies. Carlo and I are to attack the tower again to-morrow; to-morrow it shall fall!

'August 29. We start the primus as early as 4 o'clock, it has to function till six. Our cocoa, and the large jar of tea which the coolies need to wash down their tsampa, must all be cooked! Shortly after 6 o'clock Bauer started with Ketar; Pepperl soon followed with Pemba and Kami.

'Carlo and I are in no such hurry! It is much too cold up there at this hour, and no one can go on hacking away for more than six hours in one day!

'At 9 o'clock we drain the last drop of cocoa in the jar and set out. After thirty minutes we halt at the foot of the steep tower. The traverse to the left towards the buttress is easy to-day, our old track is frozen nice and hard. I hammer a grapple into the smooth ice as a safety measure, it goes in with difficulty and holds firmly. I then make a reverse traverse in the face upwards towards the ridge. There is a lot to cut away, work is sure, but very slow. At last I reach the ridge level, but it takes a long time to get on to it. On the Twins side I can pierce everywhere with my axe, and after hacking away the ridge edge for some time, I manage at last to get astride of the thin edge.

'I have now been cutting and working away uninterruptedly for two and three-quarter hours, and poor Carlo, half-frozen, has been holding the rope, which he has been relaying an inch at a time through the spring-hook of the grapple. But now it is done.

'Kangchenjunga will not have many examples of this sort of tower. I straddle the ridge edge for another yard, and then burrow my way very carefully up over a snow boss which joins on here to form a little plateau in front of the tower's summit. Here I let Carlo come up. He grumbles at the "horrible place," and is obviously unused to this kind of riding. He has the rucksack and we

now have a rest with some chocolate, "Bündner" meat and even a flask of cocoa!

'Now Carlo leads! Some more painful burrowing and hacking at the final boss of the tower, and we stand upon the broad summit plateau from which a gentle snow arête leads to the next tower. Carlo crosses it at once to inspect the next tower, a bulky pinnacle with steep, but practicable sides. It must be the Twins tower of two years ago.

'He burrows a complete cylinder out of the Twins tower where a layer of soft snow a yard thick rests on the firm ice.

'Carlo works away at about two-thirds of the tower, then we leave it for to-day. It is half-past three. For the last hour and a half it has been snowing hard, and we are wet and cold.

'By about four we are back again in camp where Bauer and Pepperl who have been up here since midday, await us with the most tempting dishes. There is so much baked macaroni and ham that we cannot eat it all. This is followed by tea and little cakes which Tenchedar has baked and brought up for us from the ridge camp. Tenchedar and Bagde accompanied Peter to the ridge camp. After the meal we can hardly move.

'We roll ourselves clumsily into our sacks and go to sleep with the certainty that the chief obstacles in our way to Kangchenjunga will be overcome in a few days.

'August 30. At half-past twelve to-night we all woke suddenly. Perhaps our noble stomachs could not get enough oxygen up here to digest such quantities of fat as we had consumed last night, or perhaps we had all simply overeaten. The fact remains, our stomachs gave us trouble. We sat up and opened the tent in order to get fresh air. Luckily it all passed over safely. All the same it was the first time that I had had a restless night at over 19,600 feet, out of twenty nights up to now. That by the way. Carlo and I have a day off to-day! We can hardly believe it! But it is Bauer's and Pepperl's turn to hack away on the ridge, and there are no more supplies to bring up. The coolies too need a rest.

'But an idle day like that passes so much quicker than a working day! You first of all stay longer abed, although the sun is shining. Then you cook and eat breakfast with leisurely enjoyment, while the mists gradually close in. Then there is always something to be

GREAT PRECIPICE OF KANGCHENJUNGA

sewn, and meanwhile it is midday, and snowing. Finally comes stock-taking and clearing up, then quick with the porridge on the primus, so that supper is ready for the others when they get back tired out from ice-cutting. So speeds the day away!

'At half-past five Bauer and Pepperl return from the ridge frozen and wet through. Hot coffee warms them up again. To-day they have climbed the Twins tower and pushed on about two ropes' lengths over a horizontal section of the ridge, as far as a small pinnacle overhanging far on the Twins side, nicknamed "Leberwurst." They have also done what they can to improve the path at the "Devil's tower" (as we now christened the former difficult Tunnel tower) and make it possible for the coolies. That is how the route stands at present. To-morrow Carlo and I are to go up again!

'To-day's weather: A perfectly clear, lovely morning unlike any other we have had up here. And now it is snowing fast, with the thermometer at -3°, between these times we have had every possible kind of weather, usually thick mist. It is nearly always like

this up here!

'August 31. Bauer and Pepperl rest to-day, while Carlo and I go on up and are on the top of the Twins tower by ten. Soon we stand at the end of the path on the topmost cornice of the "Leberwurst." Another half-hour and this comic tower is conquered, but, alas! on the horizontal and, as we thought, unobstructed section of ridge that leads to the great precipice, stand two more little towers. Of these the first soon yields to us—a short climb through the top cornice. The second tower cannot be climbed direct. We call it "Fungus tower", because it rests on a thin stalk, and overhangs right and left, like a mushroom. But after clearing away some icicles we manage to crawl on the Zemu side some fifteen yards under its projecting roof, and so reach the sharp ridge col beyond the "Fungus tower". A safe and amusing way of circumventing these ridge towers!

'Now we are at the commencement of the great precipice, it is already half-past one. Actually we had hoped to make it quite practicable to-day and so to push on to Camp IX. But our two towers have taken up a lot of time. I explore for a rope's length in a steep snow gully up towards the great precipice; then Carlo burrows his way up over a snow boss for a few yards—and it is past three. We cannot

possibly make it to-day and it is already cold and snowing, so we turn back here. Towards half-past four we are back in Camp VIII, where we are welcomed with coffee, pea soup and stew.

To-night we are attempting to communicate by flashes with Camp VII as we want to know when Peter is coming up. We are to go and fetch him from the ridge camp. Unfortunately, thick mist prevents our experiment.

'September 1. The sun is shining again through our tent roof as we wake. Bauer is the first man outside, and is soon engaged in conversation with Peter (2,300 feet lower, at the "Eagles' Eyrie"). It works amazingly well, but the news from below is depressing. Peter cannot come up, as there is no one to accompany him! Something must be done as we in front cannot go on working aimlessly. Bauer with Kami on the rope, tramps down in under the hour. He hopes to get to Camp VI to-day and, if necessary, right down to Camp III to-morrow! It is hoped that he can bring up reinforcements while we push on with the trail above; in a few days he expects to join us. Pepperl and I start rather late (9.30 a.m.), and Carlo with Pemba and Ketar still an hour later; we to finish the path to Camp IX, and the others to bring up supplies to the depot at the "Fungus tower". The going is slow to-day. All goes well for a rope's length beyond the highest point reached yesterday, then it becomes difficult. A zigzag traverse in the ice (very steep) and then a difficult climb through a cornice. It is half-past three when we stand on the shoulder above the big precipice. We should have managed that too, but now there are two ropes' lengths to go over a none too easy arête—over the "Powder tower" of 1929—to Camp IX, and it is too late for that to-day! Curse it! If only we had hurried our stumps a little! Yes, I am annoved about it, just as I am about the failure of our reinforcements. So I am rather grumpy this evening, a good excuse for the others to "rag" me.

'We are not back in camp till after six, and turn in early. How is it all going to end? The porters, Pemba and Ketar, whom Carlo took up to the "Fungus tower" to-day, have also mutinied. The way is too difficult—Pemba also jibbed at the "Devil's tower"—Ketar said he was going to Darjeeling, etc. Well, most of that can easily be got over, although we cannot make the path much

easier; it certainly is very difficult in parts.'

THE FINAL ATTEMPT ON THE SUMMIT

A T last our desperate efforts had succeeded in conquering the most dangerous precipices on the way to Kangchenjunga. Every available man had now to be brought up over these places to the front. A long stretch still lay before us, made doubly fatiguing by the deep snow, and more dangerous because of the great altitude and prevailing storms. In order to marshal the last reserves I had descended on September 1 from the first terrace to Camp VI.

Both there and in Camp III everything was in first-rate order. Allwein and Brenner had just returned from an ascent of the Sugarloaf, but the general condition of health was very bad. If there had still been a really healthy, efficient man left among the Europeans, he would now have been able to take over the whole backward communication between Camp VI, Camp III and Lachen. But with Fendt and Leupold so weak, they were not fit for the job. At the most, if not forced to return home, they could stay in the camp on the Zemu glacier. Perhaps, if Fendt got better, Brenner might be able to come up to the 'Eagles' Eyrie,' later by himself. Except Allwein, no one from here could go on up.

Aufschnaiter had been living for weeks in Camp VII, and steadily, day after day, had forwarded supplies up to the ridge, often with very inadequate porters. Now this work was finished. We handed over the camp to Tenchedar, Aufschnaiter himself went on up with us. Two porters also declared themselves willing to come. The

relief that their arrival promised to bring to the small band of ceaseless toilers up above was tremendously valuable.

It then snowed for a whole week so heavily that we put off our departure from Camp VII from day to day. On September 8 it improved at last; we trudged up to the ridge, and on September 9, six of us moved on to join the vanguard.

The two new porters, Pasang¹ and Dordshi went in fear and trembling from the beginning. When at last they reached the place of the accident, they were suddenly completely done. They peered into the gully and started to pray aloud in terror, growing more distracted, as if they were seeing ghosts. Finally, heedless of the steep precipices that fall away on both sides, they threw themselves down before us in the snow, kissing our boots and imploring us with hands raised in prayer to leave them behind.

But that was out of the question, it was already late in the day and eight hours' hard climbing lay behind us. It would have meant an unpleasant bivouac somewhere on the ridge, if we had tried to turn back now. Finally, when Dordshi laid down his pack, untied himself from the rope and in a fit of madness tried to run back alone, our patience gave out. We seized him by the collar and forced both of them to come with us up the short section to the terrace. My trusty servant, Kami, pulled a disdainful face as they let themselves be hauled up on the rope.

¹ It was the same Pasang who had behaved so consistently well on the return march with Allwein and myself. He had strangely altered for the worse. Two years ago he was a valuable member in the four-leaved clover of our élite. But to-day, now that Chettan, the best of them, had been killed in 1930 by an avalanche, Ketar dead of fever, and Lewa gone to Kamet, he seemed unstable when left to depend on himself. He had also obviously been corrupted by various influences and circumstances. Last, but not least, the coincidence that the porter who had fallen had borne the same name, Pasang, and was a relation, seems to have filled him with superstitious fears.

THE FINAL ATTEMPT ON THE SUMMIT

The next day Dordshi was so demoralized in body and soul that he was of no further use to us. Pasang was a little ashamed of his yesterday's weakness, and I think we might have got him up higher still, if he had not taken off his snow glasses when he lost his head the day before, and so had got his eyes very inflamed. Moreover we could not leave the thoroughly unhinged Dordshi quite alone. With heavy hearts we had to leave the two porters, whom we so badly needed up above, in the ice cave at Camp VIII. They were supplied with blankets, provisions and fuel for several days.

Thus our reserves had appreciably dwindled. We had to divide up the two loads between us and ourselves drag up everything to Camp IX. The vanguard had moved forward this day, and had pitched Camp X at a good 23,000 feet, far higher than in 1929. Ketar and Pemba had given their last ounce; when they heard on September 11 that no other porters were coming up, they collapsed in tears. Pircher and Wien had to go down alone to Camp IX to fetch supplies.

Since August 20, Pemba, Ketar and Kami had done the whole work above the ridge camp alone. Every day they had scrambled in dizzy, exposed places over the difficult ice towers with their packs. For some time they had been asking for help, but all the porters whom we tried to bring up higher were attacked by mountain sickness at the 19,400 feet level, and so were useless farther up. Doubtless the difficulties of the exposed ridge played a large part in this.

Amid the vast solitudes up there on the ridge, the simple

161

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¹ The exact altitude is given here, calculated from stereophotogrammetric observations. For further details, see Bauer's *Um den Kantsch*, pp. 125, 161. Between Camps IX and X the ridge had undergone most alteration. In place of the overhanging snow-drifts which had demanded the greatest precaution in 1929, lay in 1931 a good 150 feet high perpendicular ice barrier right across the ridge (see illus. 74, extreme left lower corner at the commencement of the north-east spur).

souls of the porters require some tangible communication with life below. They demand the presence of other human beings, of their own countrymen, in order that they may preserve their faith in their own reality and save themselves from the illusion that they were already on the way to the Beyond, already in the kingdom and power of such dreaded spirits as they believe Kangchenjunga to be.

Now, without this help, they felt themselves quite deserted, and it looked as if we could not count on them any more. That probably would have made the attack upon the summit impossible, for it would have been presumably beyond our strength to have carried up by ourselves enough supplies for eight or ten days, as well as equipment for a further two or three camps. We gave the men a few days' rest and hoped in that way to win them back again. We felt confident that the enthusiasm that inspired us would animate them too.

Since September 10 we had at last put behind us the 6,560 feet perpendicular girdle of ice and rock that encircles the whole of the Kangchenjunga massif and renders it so impregnable. Our Camp X lay 22,977 feet above sea level, high above the majority of the peaks in the Zemu region. Only a few, Tent Peak and the Twins still overtopped us. The panorama from there was so overwhelming in its all-embracing grandeur, that we were filled with fresh enthusiasm every morning as long as we were up there. To be able to spend one day at that altitude was a sufficient reward for all the toil and fatigue of the past weeks. One lived here upon an almost ethereal platform raised high above the world, and separated from it by vast abysses, while gentle slopes led up to higher regions. One was nearer the sky than the earth. Far below mighty glaciers flowed down to the valleys, deep blue lakes sparkled between debris and ice, green moraines reminded us that there still existed flowers and plants in

those deep valleys which we had left for over two months, yes, even trees and forests. To the north and east on the horizon towered the sacred mountains, Chomiomo, Kangchenjau, Pauhunri and Chomolhari. In the far distance, eastward, in Bhutan or Tibet, two mountain groups were visible in a distant haze of blue. Their names and position were hidden from us in mysterious obscurity. One was a broad, double-peaked plateau, the other a sharp pyramid with a broad shoulder. (The former might possibly have been Kula Kangri, 24,772 feet, some 145 miles away.)

Although we felt utterly worn out, the fact that we were actually standing up there, gave us new strength. We pushed on higher still with our packs, doing our own porterage to spare the coolies. But these good fellows would not stand by and suffer that, they rallied their last forces, and manfully declared themselves now determined to go with us to a Camp XII or XIII. So there we stood on September 15, at an altitude of 23,000 feet, six climbers and three porters with supplies and fuel for a fortnight, and equipment for three more camps. We were starting later than anticipated, but at any rate a fortnight earlier than in 1929. The weather was settled, the route to Camp XI prepared. We now had to push on as fast as possible without the leading party ever quite losing touch with the second detachment.

On September 16, a large party went on to Camp XI, an ice cave was dug out, and Hartmann and Wien remained up there. On the 17th, Hartmann and Wien made tracks for the outpost peak, Allwein, Aufschnaiter, Pircher and the three porters moved with bag and baggage into Camp XI. On the 18th, Camp XII was to be pitched, and to be occupied on the 19th by four men, while the rest did transport work in relays, so as to keep them supplied. On the 20th, the second platoon was to move in to

Camp XII, and the first to erect Camp XIII. From the 21st the leaders could advance on the summit, having thus a second party in their rear who; despite their sadly depleted numbers, would be able to take a lot off their shoulders and even assist in case of emergency.

But it never came to this. I myself had to be the first to turn back.

When we were moving into Camp X on September 16, my progress had been very slow: after three hours I had only gained 890 feet altitude. Near the head of the névé at the commencement of the Bianco ridge, 1 Aufschnaiter waited for me and advised me to turn back. Turn back? The thought had not occurred to me, but Aufschnaiter was right. I should be endangering myself and the whole leading party if I were to continue. The cold night would soon be upon us, and I myself, as well as those who came to my assistance would inevitably be frozen.

And so I turned back; the others could, and would carry on the work without me. I wanted to get down to Camp IX, but once I had started to give in to illness, I felt worse every step. It was obvious to me that my heart was giving out.² The north-east spur was soon enveloped in blue shadows, the cold increased from minute to minute. I could not get down to Camp IX now. One foot at a time I slowly tried to reach Camp X, it was a matter of life and death. In the northern sky and seemingly within easy grasp, the mountains rose in glittering icy splendour; there, in their shadow, Dr. Kellas lies buried. I looked up at them, for he had died of heart failure.

Luckily I managed to reach Camp X. But its outfit ¹23,870 feet (see illus. 69). Allwein and Kraus had turned back on October 3, 1929, 82 feet lower down.

² Dr. Allwein, after thoroughly examining me at the 'Eagles' Eyrie,' diagnosed an enlarged heart, and weakness of the heart muscles which had already led to sluggishness in several organs, especially the liver. Two months later the illness had vanished so completely that no further traces were found.

included neither a sleeping-sack nor a blanket, as it was usually easy to get from Camp XI to Camp IX in a day. Unfortunately too, when digging the ice cave, we had opened out a concealed crack in the ice so that a freezing wind blew through the cave. This night, without any warm covering, turned out to be one of the worst nights of my life. Like a sick beast I crawled slowly round the cave on all fours, or tried to creep into the ice to escape the cold. I then carried the primus, milk tablets and camp medicine chest into a corner and heated up some milk. In the list of contents of the medicine chest I came across something for heart trouble (Kardiazol), and upon these three, primus, dried milk and Kardiazol my whole life hung that night.

The next morning my every thought and action was directed towards reaching the sleeping-sack in Camp IX, for I was afraid that I could not survive another night like the last. Step by step I dragged myself down—it took the whole day. Then I felt safe and buried myself in my sleeping-sack.

On the morning of the 19th the sun shone through the curtain into the cave of Camp IX, birds were chirping outside. I awoke full of an indescribable feeling of happiness, such as one feels when first waking after a severe illness. I fixed myself up in Camp IX in order to await the vanguard party there. But while I was sitting there full of cheerful hope, our fate above had been decided. These decisive days are described in Wien's Diary:

'September 16. A glorious morning. The view towards Tibet has never been so extensive and clear. We collect everything that has to be carried up, especially the supplies for 4—6 days. Allwein is the first to start. He takes the large shovel—the sort that stokers use, and which is the best implement for making ice caves—puts it in his rucksack and hurries off in front. Being on his own he gets up quickest, and can at once begin work on the ice cave which we

two can finish for ourselves in the evening. Pemba is quite fit again, but Ketar still useless through snow blindness. Kami complains of headaches which disappear when no notice is taken. He and Pemba go up with Aufschnaiter. We follow last with heavy rucksacks. Pepperl and Bauer remain in camp. We can only advance slowly. A rucksack of 30-lb. at an altitude of 23,600 feet is a very considerable impediment.

'Camp XI stands upon the final level piece of the north-east spur, before the outpost peak, i.e., the spot, which seen from below, looks like the outpost peak itself (see illus. 74). From here a sharp, slightly rising snow arête mounts to the actual outpost peak (25,256 feet), the highest elevation between spur and north ridge. The final slope above Camp XI is steep but very wide. The side towards the Twins glacier falls away less sharply here than in all the lower part of the spur. The last steep, sharp piece of arête represents the tower made practicable by Alisi (Allwein). Its sharp edge leads into a steep, 265 feet high slope; then it becomes level again just on the site of Camp XI, and then leads up to the slope of the peak. This notch is, so to speak, the connecting link between the sharp lower ridge and the broad slopes of the peak. There is no level plateau available here for a camp. The ridge slowly diminishes in steepness, but as Alisi's first problem on selecting the site was to dig an ice cave, he chose a fairly steep place. The digging of a site for the tent called for more work next day.

'We climb the tower by a none too easy route. It is cold and windy, the sun just about to disappear. 260 feet above us we see the others standing, just preparing to descend. Alisi is in front, he gets down to Camp X in forty minutes. Aufschnaiter follows slowly and carefully in his steps. He has to wait for the coolies and see them safely past the difficult rope's length down the flank of the tower. They follow slowly at first, in the steep part without climbing irons they slide joyously down the trail and obliterate all steps, leaving only two smooth runnels; a bad climb for us. They pass us, Pemba quite at the top of his form again to-day, with a really cheerful "Salaam, Sahib." Au revoir till to-morrow in Camp XI.

'We move up the slope, Hatschi (Hartmann) in front; we notice what a terrible exertion it is for him to tread out a step in the hard frozen névé. With his heavy rucksack he moves upwards, half

crawling. Stupidly we are still roped together. I advance in his footsteps faster than he does, but as he cannot pull the rope taut, it forms a loop that hinders one. I make a mistake by untying myself in order to catch up Hatschi and relieve him by leading. Now he has to pull the whole weight of the rope through the loose snow. I go ahead on the poor trail and soon reach Camp XI. Hatschi now has a longer stretch where his small feet break through the tracks so that he has partly to crawl, hindered by his rucksack and the rope which tightens round his body. But his great strength overcomes it all. At these altitudes there comes a point when the body can no longer endure such exertions. Hatschi goes somewhat beyond the point, and when at last he reaches me, he is literally "half gone."

'It is a difficult problem to remove our half-frozen rubber overshoes. And there is still the ice cave to be completed. At present there is only one hole available in which two people can sit with difficulty. After Hatschi has recovered his breath a little—he still suffers from the pressure of the rope—we start to work at once. He kneels in the hole and digs out the great lumps with the shovel, while I cart them away. It takes a long time before everything is ready, before the foundation (which consists of rainproof cloak and wind-proof clothing) is laid out. On this the sleeping sack and under blanket are then spread. Through kneeling in the ice cave Hatschi's feet, which are anyhow short of oxygen, have got cold, and cause us anxiety. He is really thoroughly exhausted and coughing badly, and we anxiously wait to see how soon he will recover.

'It is an unpleasant night. Our Meta fuel burns into the late hours, and I listen none too sanguinely to Hatschi's coughing and heavy breathing. There is only one thing to be thankful for, the warmth in our ice cave. But I do not think that, generally speaking, our constitutions recuperate after rest so well here at about 24,280 feet as they did in Camp X, which lies just over 23,000 feet.

'September 17. Everything is all right again as the morning sun shines upon the entrance to the hole which we had draped over with a windproof cloak. Viewed from here the panorama is quite overpowering. It is beautifully clear, I can see the Kangchenjunga glacier in Nepal, over the Twins and Tent Peak far away to Tibet and the Zemu valley. In the sun, too, it is not cold, so that we can set to work with the camera. Hatschi is wonderful, he takes

for granted that he is coming up with us to the outpost peak. Although still fatigued, he is certainly much better. Thank God!

'We have to load a new Leica film, and then at half-past nine we slowly track upwards. It is windy up here and the slopes show ridges and wind-troughs; but it is only a thin layer over the level powdered snow in which it is easy to make tracks. But never lose the rhythm! As long as one can draw the same number of breaths—and that may be many—and step, press down the foot and carry the weight forward in time, one can progress, slowly perhaps, but systematically, leaving a regular track behind. Too frequent and irregular halts are bad.

'We come to the end of the steep ridge. Misty! One can just see the more level continuation of the ridge to the first spur slope. I explore slowly upwards in good snow towards the Zemu side, and wait there for Hatschi, whose efforts with the camera have delayed him. It clears again. A pointed snow peak with red rocks on the left, stands at the end of a long sharp arête, the outpost peak (see illus. 72). It looks high from here and the last snow slope steep and long, but we have no scale. Kangchenjunga looks quite close now. We can overlook the north ridge in every detail: from the summit pyramid across the wide slope down to the col, which is not much higher than we are. From there up again and over a snow ridge slowly sloping down to a second col. The rest is hidden by the outpost peak, but we can take it as certain that we shall be able to reach the north ridge across an arête similar to the one from here to the outpost peak. That is only about an hour and a half away.

'The passage over this sharp arête in fine weather is one of the grandest experiences I have ever had. On both sides, towards the Zemu and Twins glaciers are equally steep precipices, and we are up here on the névé edge en route for Kangchenjunga. It is so close that we are practically certain of reaching it. Mists touch it, clear it, sometimes reveal only the topmost peak (see illus. 75) still high above us—such pictures, seen as we move at this altitude, are profoundly impraction.

foundly impressive.

'Over a slope of deep powdered snow we reach the outpost peak. The highest point is at first unapproachable, because it lies on a sharp snow arête which runs up to the rocks. This is composed of quite loose snow, a continuation of the deep powdered snow on the Twins

side, and on the Zemu side of a very thin layer of névé. There is a lot to be cleared away before we can set foot on it. The above-mentioned snow arête prevents us from pushing on to-day. It requires still more step cutting, and it is too late for that to-day.

¹But the view to the north ridge is already open. Our ridge, which at this point dips but slightly, soon becomes quite practicable again. Its general direction is definitely north. We cannot see its continuation, but it is plain that as a ridge it ends, not as we had taken for granted judging from our photographs, at the north ridge, but as a flat, broad snow saddle under the flanks of the north ridge. The only possible ascent of these flanks to the north ridge goes over a steep snow slope, in which suspicious traces of snow slab avalanches are to be seen. All the same we can only examine the upper third of this slope, the rest is hidden by the ridge (see illus. 73). The upper part appears to be practicable by a plainly visible edge.

'It is obvious that we must pitch Camp XII in the saddle under this slope. The saddle appears to offer a good camping place, and the distance from Camp XI is such that the porters can easily make the return journey in one day. It is a fine day, perhaps one of the finest we have ever experienced, as Hatschi and I stand up there on the

outpost peak and survey the view.

'At two o'clock we descend. It still remains bright and sunny as we wander back in our clear tracks along the endless roof edge of the ridge. It is curious how warm and calm it is up here. At the end of the level piece we sit down again and enjoy the sun before diving down the steep slope into the shade where the cold is certainly intense.

'Meanwhile the other climbers have reached Camp XI, first Alisi, who had a lot of trouble digging out a site for a tent in the fairly steep slope, then Pepperl with Ketar. Ketar stands about half frozen because the other porters who are bringing up their own tent have not arrived yet. They come along some time after Aufschnaiter, who had led them up over the difficult spot. Below the Bianco ridge he was a little worried about Bauer, who followed very slowly and took three hours to do the distance. He waited a long time for Bauer and then persuaded him to turn back as, at his pace, he could never reach Camp XI to-day. Bauer turned back with a heavy heart intending to descend to Camp IX. It is

1 p.m., and according to our reckoning the afternoon should be quite long enough for him. We have no doubt but that he will have been able to carry out his project, and is now awaiting us in his warm sleeping-sack in the ice cave in Camp IX. We know nothing of his weak heart and his terrible night in Camp X. It is better so, as we have enough to do as it is to look after ourselves.

'It is cold in the tent where I first sit with the others. Alisi is cooking a pea soup which gets upset by some clumsiness, forgivable in such a cramped space; but only a little remains for each man. Aufschnaiter is suffering from a cough and body pains, Pepperl has long ago lost his voice and also has a bad cough. When I join Hatschi in the ice cave he seems to be quite well and full of self-confidence. We agree to give him a day off to-morrow and he maintains that: "The day after to-morrow I shall certainly feel quite grand." For our spilt supper we cook a substitute with Meta fuel, and then turn in to the common sleeping bag.

'At 10 o'clock Hatschi's feet suddenly begin to hurt him terribly, and, as the pain is the same as at the time when his frost-bitten toes began to thaw near the Hauser in Pontresina (see footnote, p. 144), he is afraid he will lose his feet altogether. We try in every possible way to raise them in order to alleviate the pain, but the smallness of the cave and the sleeping bag frustrates all our efforts. Hatschi gets no sleep the whole night, and I never for more than a

few minutes at a time.

'September 18. In the morning the pains have ceased. We can soon tell that the trouble with his feet is over. Only the small projecting corner of his right foot is black, and gives us cause to fear it may be done for. Alisi too thinks this possible, and advises in this case an immediate descent. We place him in the tent, i.e., he crawls there himself. He finds it more comfortable there for his feet, and warmer during the daytime.

'To-day (September 18) the rest of us want to bring up as much material as possible to Camp XII, and start at once to dig the ice cave there. Meanwhile Alisi will push on to the north ridge and explore, especially as to the practicability of the slope above Camp XII and the first part of the north ridge as far as the col. Alisi, Aufschnaiter and Pepperl, who slept in the tent, have also passed a bad night owing to the extreme cold. Aufschnaiter is rather washed

out to-day, he is troubled with his cough and also with body aches and thirst; he will have to stay behind.

'Alisi and Pepperl start off, the former again with the big shovel in his rucksack, while I leave camp about twenty minutes after them. We have the entire commissariat far above with us, so that the porters can easily carry up two sleeping-sack combinations and a folding tent the next day. A move is only difficult when the porters have to carry their own thick things as well, sleeping-sacks and blankets and all their accumulated possessions. The loads at once become so heavy as to be too much for them.

'Yesterday's trail is still quite plain. Pepperl is the one of us three whom these last weeks seem to have tried most. His breathing is decidedly worse in these altitudes, and I easily catch him up. On the other hand, Alisi is well ahead and a good step faster than I am. Unfortunately it is misty to-day during the ascent. It clears for a short while on the level ridge, but closes in again as I join Alisi on the outpost peak.

'Alisi at once tells me of his misgivings about the dangerous snow slabs on the slope above Camp XII, although he has not seen the whole section, which was only clear of mist for a short time.

'We set to work to make the sharp snow arête practicable, but after some sixty-five feet one can follow the Zemu side again by balancing carefully. Alisi, who has got to a rise in the ridge, looks across again to the suspicious slope which is just getting clear of the mist, and calls back to me to come along quickly, as the slope makes a better impression from there. I find him sitting on the ridge terrace just before it dips to the great broad saddle and opposite to the treacherous slope which is now quite close to our view. "We must turn back," was all he said. The saddle at our feet would be an ideal camping site, and could be reached by the porters without difficulty. But nothing that could resemble an arête leads from there up to the north ridge of Kangchenjunga, which we can see in profile.

'The steep snow slope, at first sight would appear harmless, not only to the layman, but even to us, were it not for the fact that we could see two great jagged edges where snow slabs had fallen, as well as several suspicious cracks in various places. It consists of two steps, the lower (two-thirds of the height) is curved strongly convex, a horribly dangerous shape for avalanches and not passable.

One would have to cut direct into the slope on its steepest side which already threatens to break loose with a yawning crack. The smaller upper part, the piece that Hatschi and I had already seen from the outpost peak the day before, is dangerous too, but one might possibly reach a snow ledge along which one would pretty certainly gain the north ridge. A detour is out of the question. On the left is one of the famous fluted snow walls of the Himalayas with countless quite fine ripples, on the right the steep rock-faces of the north ridge can only be reached across overhanging snow masses. We both sit for a long time before this appalling picture which destroys our fairest hopes. Pepperl has stayed behind on the outpost peak-we talk and talk, weighing every possibility. It is all useless. We must make up our minds here and now to turn back and so renounce Kangchenjunga. All our toil and sacrifice must be in vain, and our whole expedition doomed to a negative result. Alisi is famous for his daring avalanche adventures, he has an uncanny-experience in such things, and knows the dangers better than anyone. We must turn back.

'It is beginning to snow at the outpost peak. We collect Pepperl and leave the shovel sticking in the snow of the outpost peak, the highest point we have reached. In thick driving snow we wander back over the level ridge. Before the steep slope begins, the snow cloud that has enveloped us, disappears, it is clear again. I look towards Nepal and Tibet and on the other side towards Kangchenjunga, near and yet still lofty—at any rate, inaccessible. I remain some way behind. One is loath to leave the highest point that life has allowed one to attain.

'In Camp XI everyone is very depressed. Hatschi will not believe it, he is the keenest and most venturesome of us all, and probably would not have let a chance slip of risking an attempt. He added too, that were friend Bauer in his old form, he would find a way to conquer this slope. But how? We have no ropes long enough, and if anyone got carried away, even on the rope, he would be suffocated at once up here. What good are all these discussions, even such as Hatschi and I have that night in our sleeping-sack, and that go to the very core of the matter? We must reconcile ourselves to facts.'

The morning of September 19 I sat in front of the ice

cave in Camp IX and looked up at the silver-scaled fish-shaped cloud that formed and reformed in the same spot above the north-east spur—now drifting across the sun, now dissolving in an endless repetition. The joy of being able to experience this spectacle all alone, above such infinite space, somewhat compensated for the deep disappointment at my own bodily frailty and inability to be helping those in front. Then came Allwein and told me everything. It hit me hard.

Allwein accompanied me down over the towers, the others followed. Wherever we stood or trod, our minds turned to the days ahead, revolving every possibility. While that evening from the tents of the porters the melodious laments for dead Babu Lall and Pasang and Lobsang were wafted across to us, we sat wondering, why, why? After all our sacrifices, all our exertions?

We had realized from the beginning that such a mass of avalanche snow might prove an obstacle—perhaps the only one—to compel us under certain circumstances to retreat without giving battle. We had not expected it at this spot, rather, perhaps, lower down, possibly in the notch in the north ridge. Circumstances permitting, we might have waited to see if the snow would improve. But we were too worn out for that. We might have rallied our last strength for an attack upon the summit, but we could not go on waiting, supplies would have run too short and reinforcement was impossible. Above all, it was out of the question that the wall would become safer now, as in autumn the snow increased rather than diminished.

These were the reasonable conclusions we arrived at. Our final thoughts could not be put into words. We took refuge in those mournful songs in which other fighters before us had envisaged a similar fortune, had suffered anew, and had conquered.

In Camp VI we found the first letters from Germany.

Schaller's mother had also written, a touching letter which only spoke of anxiety for us. Gourlay and Faukus of the Himalayan Club had caused the bronze gravestone to be carried out according to our design, and had sent it up here. We went for the last time to the rock island to erect it. Only I could not go. I had to lie in the glacier fall where the ascent begins, and as I lay there on the ice I saw, as in life, my battalion commander standing before me, just as I had seen him for the last time. His eyes had filled with tears as I was laid down in front of him, badly wounded. We could not speak, for I had a bullet through my chest and he could not trust his voice. He fell soon after. This picture accompanied my fevered dreams. I could not quite understand it. For to a nineteen-year-old lieutenant fighting was a natural profession, and even when mortally wounded, he felt a joy and a satisfaction in it. Now I realized that these joyous fighters have a lonely destiny. They must fight and fall in the forefront of the battle, alone, miles away from the dull aspirations of the masses, as outposts of humanity. We who are older and wiser do well to veil our heads in sorrow when one of the younger recruits is reft from the ranks.

We then split up; Aussschnaiter and Leupold went north into the Lhonak valley, of the others, Allwein and Pircher turned south to the Passanram valley, Wien took photogrammetric observations on the Zemu glacier. The remainder, Hartmann, Fendt, Brenner and I, could only descend carefully to Lachen. Gradually the depression, which had sat heavily upon us since the retreat, vanished. We looked back calmly upon the past months, and as the beauty of the Zemu valley grew even richer in the clear autumn air, we too became more light-hearted, more buoyant, and finally passed out of the valley in the best of spirits.

After all, the greatest thing is to have fought for such a goal, without shrinking, without fearing, to the last.

